

AN
ENCYCLOPÆDIA
OF
GARDENING,

A DICTIONARY OF
CULTIVATED PLANTS, ETC.,

GIVING AN EPITOME OF THE CULTURE OF ALL THE K
GENERALLY GROWN IN GARDENS IN THIS COUNTRY,
TOGETHER WITH THEIR COMMON
OR POPULAR NAMES.

BY

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VEGETABLES AND THEIR CULTIVATION, etc.*

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PREFACE.

GARDENING Dictionaries and Encyclopædias have long occupied a leading position in garden literature, and have undoubtedly proved of great value to the advanced horticulturist as works of reference. But, good as they are, the majority of them are too expensive, too ponderous, and too scientific to be easily accessible or of really practical service to the many thousands of persons who have had but little experience in gardening.

Having recognised the great need of an inexpensive book that would be within the means of the humblest amateur, and, at the same time, provide in the smallest compass an epitome of the fullest and most minute practical details essential for the successful cultivation of trees, shrubs, plants, fruits, and vegetables commonly grown in this country, the Author decided some years ago to meet this want by compiling the present volume. It was his original intention to have included gardening terms and other useful information in the volume, but he found it impossible to do so and keep the latter within reasonable bounds. The present volume has, therefore, been confined exclusively to the cultural details requisite for each genus of plants, etc., and to a comprehensive list of common names. Botanical details, apart from the natural order of each genus, have been excluded in order to economise space and enable the fullest cultural facts to be given. The date of introduction into Britain of the first foreign species of each genus has been furnished as far as it could be done with

certainty, together with the native habitat, average height, prevailing colours of flowers and periods of blooming, and the number of species in general cultivation. The cultural details embrace the soils, composts, positions, times of planting, pruning, potting, and sowing, temperatures, watering, manures and methods of propagation required by each genus, and also, where necessary, by each species. These details are not furnished in such a precise manner in other dictionaries; therefore, it is hoped they will prove of great service to the amateur gardener of limited experience and leisure.

The Author desires to say that he does not profess to have included all the genera of plants known to be in existence. His aim has been to include those only that are in general cultivation and to be found in trade catalogues. New kinds are being constantly introduced, and older ones found, after further experience, to be worthy of general culture. These have been added, and are included in a 20-page Addenda (see page 433). In a few instances some of the genera, such as *Pelargonium*, will be found out of their proper sequence. These will, however, be readily found on a preceding or succeeding page.

It is very gratifying to the Author to know that this work has met with such popularity at the hands of the gardening public as to necessitate an Eighth Edition being printed. He trusts the present Edition will meet with similar favour.

T. W. S.

London, 1905.



ENCYCLOPÆDIA OF GARDENING.

Aar (*Alnus glutinosa*)—see *Alnus*.

Aaron (*Arum maculatum*)—see *Arum*.

Aaron's Beard (*Hypericum calycinum* & *Saxifraga sarmentosa*)—see *Hypericum* & *Saxifraga*.

Aaron's Rod (*Verbascum Thapsus*)—see *Verbascum*.

Abchasian Hellebore—see *Helleborus abchasicus*.

Abele Tree (*Populus alba*)—see *Populus*.

Abelia.—*Ord.* Caprifoliaceæ. Half-hardy flowering shrubs. Evergreen and deciduous. *Nat.* India, China, Mexico, Japan. *Int.* 1842. *Species* cultivated, 5. *Ht.* 3 to 5 ft. *Flowers*, rose, pink, white, red; *Mar.* to *Sept.* *Compost*, equal parts peat, loam, sand. *Position*, warm, sheltered, outdoors, or cool greenhouse. *Plant*, *Ap.* or *Oct.* *Propagate* by layers in *Mar.*, or cuttings of firm shoots in cold frame *July*.

Abies (Deal, Fir, Spruce).—*Ord.* Coniferæ. Hardy conifers. *Nat.* N. and S. America, Mexico, Siberia, Crimea, Japan, Spain. *Int.* 1696. *Species* cultivated, 18. *Ht.* 2 to 180 ft. *Soil*, sandy loam. *Position*, high, dry, open, from sea-coast. *Plant*, *Oct.* or *Ap.* *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy loam, temp. 55°, *Mar.*, or outdoors in *Ap.*

Abobra (Scarlet-fruited).—*Ord.* Cucurbitaceæ. Half-hardy climbing tuberous-rooted, perennial. Deciduous. *Nat.* Brazil. *Species* cultivated, 1. *Flowers*, green; *June*, *July*. *Fruit*, egg-shaped, scarlet; *Sept.* & *Oct.* *Ht.* 6 ft. *Soil*, sandy. *Position*, south wall. *Plant*, *June*; lift tubers *Oct.* & store in frost-proof place. *Propagate* by seeds sown in leaf-mould, loam & sand, temp. 65°, *Mar.*

Abram of Mamre Oak (*Quercus pseudo-coccifera*)—see *Quercus*.

Abroma.—*Ord.* Sterculiaceæ. Stove-flowering plants. Evergreen. *Nat.* E. Indies, N. Holland, Madagascar. *Int.* 1770. *Species* cultivated, 2. *Flowers*, purple; *June* to *Oct.* *Ht.* 8 to 10 ft. *Compost*, equal parts loam, peat, sand. *Pot* & *prune*, *Mar.* *Water* freely in sum., moderately in winter. *Temp.* *Mar.* to *Sept.* 70° to 80°; *Sept.* to *Mar.* 60° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, or cuttings of firm shoots, in fine sandy soil, *Mar.*, temp. 65° to 75°.

Abronia (Sand Verbena).—*Ord.* Nyctaginiaceæ. Half-hardy trailing annual & perennials. *Nat.* California. *Int.* 1823. *Species* cultivated, 3. *Flowers*, orange-pink, sunny *Ap.* to *Aug.* *Ht.* 6 to 24 in. *Soil*, sandy loam. *Position*, exposed white; rockery or elevated warm border. *Plant*, *June*. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil, temp. 55° to 65°, *Mar.*; perennials by cuttings of young shoots in similar soil & temp. *A. umbellata*, good greenhouse plant.

Abrus (Paternoster, Rosary Pea, Wild Liquorice, Weather Plant).—*Ord.* Leguminosæ. Stove climber. Orn. foliage. Deciduous. *Nat.* E. Indies. *Int.* 1680. *Species* cultivated, 1. *Ht.* 9 to 12 ft. *Flowers*, pea-shaped, pale purple; *Mar.* to *May*. *Seeds*, scarlet. *Compost*, two parts loam, one part peat & sand. *Pot* & *prune*, *Mar.* *Water* freely spring & sum., moderately

in autn. & winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, or cuttings of firm shoots, in sandy loam, temp. 75° to 85°, Feb.

Absinth (*Artemisia absinthum*)—see *Artemisia*.

Abutilon (Indian Mallow).—*Ord.* Malvaceæ. Greenhouse shrubby plants. Evergreen. *Nat.* N. Grenada, W. Indies, S. America. *Species* cultivated, 8. *Ht.* 5 to 12 ft. *Flowers*, crimson, red, yellow, white; Mar. to Dec.

Compost, two parts loam, one part peat & sand. *Pot & prune*, Mar. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Water* freely in spring and sum., moderately autn. & winter. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, or cuttings in light rich soil, temp. 70°, Mar.

Abyssinian Banana (*Musa ensete*)—see *Musa*.

Abyssinian Myrrh (*Acacia sassa*)—see *Acacia*.

Abyssinian Primrose (*Primula verticillata*)—see *Primula*.

Acacia (Wattle, Gum, Myrrh trees).—*Ord.* Leguminosæ. Stove and greenhouse flowering plants. Evergreen. *Nat.* Australia, E. Indies, S. America. *Int.* 1666. *Species* cultivated, 25. *Ht.* 3 to 20 ft. *Flowers*, yellow, white, red; Feb. to Sept. *Compost*, equal parts peat, loam, sand. *Pot & prune*, Feb. or Mar. *Water* freely in spring & sum., moderately in autn. & winter. *Temp.*, Mar. to Sept. for greenhouse species 55° to 65°, stove species 70° to 85°; Sept. to Mar. for greenhouse species 50° to 55°, stove species 60° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, or cuttings of firm shoots, in sandy peat, well-drained pots, temp. 75° to 85°, Mar.

Acæna (New Zealand Bur).—*Ord.* Rosaceæ. Hardy herbaceous trailing perennials. Evergreen. *Nat.* N. Zealand, Chili. *Int.* 1828. *Ht.* 1 to 12 in. *Species* cultivated, 4. *Soil*, sandy loam. *Position*, moist, open, or shady rockery. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar., temp. 65°; cuttings in cold frame in Aug.; division of roots in Ap., all in sandy soil.

Acalypha (Three-seeded Mercury, Copper-leaf).—*Ord.* Euphorbiaceæ. Stove Plants. Orn. foliage. Evergreen. *Nat.* Polynesia, N. Hebrides, Fiji. *Int.* 1866. *Ht.* 6 to 12 ft. *Species* cultivated, 4. *Leaves*, orange, red, green, crimson. *Compost*, equal parts leaf-mould, peat, loam, sand. *Pot & prune*, Feb. or Mar. *Water* freely in spring & sum., moderately in autn. & winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 65°. *Propagate* by cuttings in sandy soil, temp. 80°, Feb. or Mar.

Acantholimon (Prickly Thrift).—*Ord.* Plantaginaceæ. Hardy perennials. Evergreen. *Nat.* Armenia, Cilicia, Syria, Persia. *Int.* 1851. *Species* cultivated, 2. *Ht.* 3 in. *Flowers*, rose, white; June, July, Aug. *Soil*, sandy loam. *Position*, sunny rockery or warm border. *Plant*, Oct. to Ap. *Propagate* by layering shoots in Aug. similar to Carnations.

Acanthophoenix (Prickly Date Palm).—*Ord.* Palmaceæ. Stove Plants. Orn. foliage. Evergreen. *Nat.* Seychelles. *Int.* 1833. *Species* cultivated, 2. *Ht.* 6 to 12 ft. *Compost*, two parts peat, one part loam & sand. *Repot*, Feb. *Water* freely in sum., moderately other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in light soil, temp. 80°, Feb. or Mar.

Acanthorhiza.—*Ord.* Palmaceæ. Stove Palms. Orn. foliage. Evergreen. *Nat.* Mexico, Central America. *Int.* 1879. *Species* cultivated, 2. *Ht.* 10 to 15 ft. *Compost*, two parts loam, one part leaf-mould & sand. *Repot*, Feb. *Water* moderately in sum., very little other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* like *Acanthophoenix*.

Acanthus (Bear's Breech).—*Ord.* Acanthaceæ. Hardy herbaceous perennials. Orn. foliage. Deciduous. *Nat.* Italy, Spain, Portugal, Cape of Good Hope. *Int.* 1648. *Species* cultivated, 9. *Ht.* 2 to 3 ft. *Flowers*, purple, blue, white, rose; June to Aug. *Soil*, sandy loam. *Position*, warm sheltered border. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil,

temp. 65°, Feb., or in warm position outdoors Mar.; division of roots Nov. and Mar.

Acer (Maple).—*Ord.* Sapindaceæ. Hardy trees. Orn. foliage. Deciduous and Evergreen. *Nat.* India, Britain, Turkestan, California, N. America, Japan, Caucasus, S. Europe. *Int.* (foreign species) 1383. *Species* cultivated, 32. *Ht.* 4 to 60 ft. *Soil*, well-drained loam. *Position*, shrubberies or open spaces; Japanese kinds in warm borders or in pots in cool greenhouse. *Plant*, Oct. to Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sheltered position Oct.; grafting Mar. budding Aug.; layering Oct.

Aceras (Green-man Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial tuberous rooted, orchid. Deciduous. *Nat.* Britain. *Species* cultivated, 1. *Ht.* 10 in. *Flowers*, green, red; June to Aug. *Soil*, chalky loam. *Position*, open and dry. *Plant*, Oct. to Mar. *Propagate* by division of tubers Oct. or Mar.

Achillea (Milfoil or Yarrow).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Britain, America, Europe. *Int.* (foreign species) 1596. *Species* cultivated, 49. *Ht.* 6 to 24 in. *Flowers*, white, yellow; May to Sept. *Soil*, ordinary. *Position*, dwarf on rockery, tall in open borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in warm position outdoors Ap.; cuttings under handlights or in cold frame Sept.; division of roots Nov. or Mar.

Achimenes.—*Ord.* Gesneraceæ. Stove tuberous-rooted perennials. Deciduous. *Nat.* Guatemala, Mexico, Jamaica. *Int.* 1778. *Species* cultivated, 16. *Ht.* 6 to 24 in. *Flowers*, crimson, red, white, purple, yellow, blue, rose; Ap. to Aug. *Compost*, two parts peat & loam, one part leaf-mould, sheep manure & sand. *Pot* tubers in Feb., 1 in. apart, 2 in. deep, in well-drained 5-in. pots. *Water* moderately at first, freely when in growth. After flowering gradually withhold water from roots, & when foliage dies place pots on their sides in greenhouse, letting them remain till Feb. *Temp.*, Feb. to Sept. 70° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil, temp. 70° to 80°, Mar.; cuttings of young shoots & leaves Ap.; division of tubers Feb.

Acineta.—*Ord.* Orchidaceæ. Stove epiphytal orchids. Evergreen. *Nat.* S. America, Mexico. *Int.* 1837. *Species* cultivated, 8. *Ht.* 6 to 12 in. *Flowers*, yellow, crimson, brown, white, fragrant; Mar. to Sept. *Compost*, equal parts sphagnum moss & peat. *Position*, suspended baskets. *Pot*, Feb. *Water* freely when growing, none at other times. *Temp.*, Mar. to Sept. 70° to 75°; Sept. to Mar. 60° to 65°. *Propagate* by division of pseudo-bulbs Feb.

Aciphylla (Spear-grass or Bayonet Plant).—*Ord.* Umbelliferæ. Hardy perennials. Evergreen. *Nat.* N. Zealand. *Int.* 1875. *Species* cultivated, 2. *Ht.* 1 to 6 ft. *Flowers*, white; June, July, Aug. *Soil*, sandy loam. *Position*, open rockery. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans in cold frame, or warm position outdoors Ap.; division of roots Mar.

Acis.—*Ord.* Amaryllidaceæ. Hardy bulbous perennials. Deciduous. *Nat.* Portugal, Corsica, Spain. *Int.* 1629. *Species* cultivated, 5. *Ht.* 3 to 6 in. *Flowers*, white, pink, rose; Jan., Aug., Sept. *Soil*, light sandy. *Position*, sunny rockery or warm border. *Plant*, spring-flowering species Sept., others June; bulbs 2 in. deep, 1 in. apart. *Propagate* by dividing bulbs at planting time. Lift & replant bulbs every third year.

Acmena.—*Ord.* Myrtaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* N. Holland. *Int.* 1790. *Species* cultivated, 2. *Ht.* 2 to 4 ft. *Flowers*, white; Ap. to Aug. *Fruit*, purple berries; autumn. *Compost*, equal parts peat and loam, little sand. *Pot*, Mar. *Water* moderately spring & sum., little other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of half-ripened shoots in sandy peat under bell-glass, temp. 55°, Mar.

Aconite (*Aconitum napellus*)—see Aconitum.

ACONITUM.**ACUTE-LEAVED ANDROMEDA.**

Aconitum (Aconite, Wolf's-bane, Monk's-hood).—*Ord.* Ranunculacæ. Hardy herbaceous perennials. Deciduous. *Nat.* N. America, N. Asia, S. Europe. *Int.* 1596. Species cultivated, 6. *Ht.* 2 to 6 ft. *Flowers*, purple, blue, cream, yellow; June, July, Aug. *Soil*, ordinary. *Position*, partially shaded borders. *Plant*, Oct. to Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in warm position outdoors Ap., or in boxes light soil in cold frame Mar.; division of fleshy roots Nov. or Mar.

Acorus (Sweet Flag, Myrtle Grass).—*Ord.* Aroideæ. Hardy aquatics. Evergreen. *Nat.* Europe, China. *Int.* 1796. *Ht.* 3 ft. Species cultivated, 2. *Flowers*, yellow; June, July, Aug. *Soil*, muddy. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by division of roots Mar.

Acroclium (Australian Everlasting Flower).—*Ord.* Compositæ. Half-hardy annual. *Nat.* Australia. *Int.* 1854. Species cultivated, 1. *Ht.* 1 to 2 ft. *Flowers*, rose, white; June to Sept. *Soil*, light rich. *Position*, warm outdoors; pots in sunny frame or greenhouse. *Water* moderately. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil, temp. 65°, Mar. or Ap.

Acrid Lobelia (*Lobelia urens*)—see *Lobelia*.

Acrophylum.—*Ord.* Cunoniaceæ. Greenhouse flowering shrub. Evergreen. *Nat.* N. S. Wales. Species cultivated, 1. *Ht.* 5 to 6 ft. *Flowers*, pink; Mar. to June. *Compost*, equal parts peat & loam, little sand. *Pot and prune*, Feb. *Water* freely spring & sum., moderately other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of firm shoots in sandy peat under bell-glass July.

Acrostichum.—*Ord.* Filices. Stove and greenhouse fern. Evergreen. *Nat.* Brazil, W. Indies, Himalayas, Mexico, S. America. *Int.* 1793. Species cultivated, 42. *Ht.* 1 to 6 ft. *Compost*, equal parts peat, loam & leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely spring & sum., moderately other times. *Temp.*, stove species, Mar. to Sept. 70° to 85°, Sept. to Mar. 60° to 65°; greenhouse species, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by division of roots at potting time, or by spores similar to *Adiantum*.

Actæa.—(Bug-bane, Toad-root, Snake-root, Bane-berry, Herb Christopher).—*Ord.* Ranunculacæ. Hardy herbaceous perennials. *Nat.* America, England. Species cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, white, red; June to Aug. *Berries*, red, white & black, poisonous. *Soil*, ordinary. *Position*, shady border. *Plant*, Oct. to Mar. *Propagate* by seeds sown in garden Ap.; division of roots Mar.

Actinella (Pigmy or Dwarf Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Colorado. Species cultivated, 1. *Ht.* 6 to 12 in. *Flowers*, yellow; June to Aug. *Soil*, light sandy. *Position*, rockery or open border. *Plant*, Oct. to Mar. *Propagate* by division of roots in Mar.

Actinidia.—*Ord.* Ternstroemiaceæ. Hardy climbing shrubs. Deciduous. *Nat.* Asia, Japan. Species cultivated, 3. *Flowers*, white, fragrant; June to Aug. *Soil*, light rich loam. *Position*, south or south-west wall. *Plant*, Oct. to Mar. *Propagate* by seeds sown in pots in cold frame Ap.; layering shoots Nov.

Actiniopteris.—*Ord.* Filices. Stove ferns. Evergreen. *Nat.* India. *Int.* 1896. Species cultivated, 2. *Ht.* 3 to 6 in. *Compost*, equal parts peat, loam, charcoal, potsherds & silver sand. *Pot*, Feb. or Mar. Good drainage and clean pots essential. *Water* moderately all seasons & keep atmosphere moist. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 70°. *Propagate* by spores similar to *Adiantum*.

Actinomeris (North American Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1640. Species cultivated, 3. *Ht.* 3 to 8 ft. *Flowers*, yellow; July to Sept. *Soil*, ordinary. *Position*, open border. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors Ap.; division of roots Mar.

Acute-leaved Andromeda (*Andromeda acuminata*)—see *Andromeda*,

Acute-leaved Maple (*Acer acuminatum*)—see Acer.

Ada.—*Ord.* Orchidaceæ. Greenhouse orchid. Evergreen. *Nat.* N. Grenada. *Species* cultivated, 1. *Ht.* 6 to 8 in. *Flowers*, orange, scarlet; Dec. to Mar. *Compost*, equal parts peat & sphagnum moss. *Repot* when new growth begins. *Water* freely during season of growth, moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by dividing plant at potting time.

Adam's Apple (*Citrus limetta*)—see Citrus.

Adam's Fig-Tree (*Musa paradisiaca*)—see Musa.

Adam's Flannel (*Verbascum Thapsus*)—see Verbascum.

Adam's Laburnum-Tree (*Cytisus*)—see Cytisus.

Adam's Needle (*Yucca gloriosa*)—see Yucca.

Adam's Needle and Thread (*Yucca filamentosa*)—see Yucca.

Adder's Fern (*Polypodium vulgare*)—see Polypodium.

Adder's Flower (*Lychnis diurna*)—see Lychnis.

Adder-Spit (*Pteris aquilina*)—see Pteris.

Adder-Wort (*Polygonum Bistorta*)—see Polygonum.

Adder's Tongue (*Ophioglossum vulgatum*)—see Ophioglossum.

Adder's Violet (*Goodyera pubescens*)—see Goodyera.

Adenandra.—*Ord.* Rutaceæ. Greenhouse flowering shrubs. *Nat.* Cape of Good Hope. *Species* cultivated, 9. *Int.* 1720. *Ht.* 1 to 2 ft. *Flowers*, white, red, pink, rose; May to June. *Compost*, equal parts loam, peat and sand. *Pot.* Mar. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of young shoots in sandy peat under bell-glass, Mar.

Adenophora (Gland Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Dahuria, Siberia, Eastern Europe. *Int.* 1783. *Species* cultivated, 10. *Ht.* 3 in. to 3 ft. *Flowers*, blue; May to Aug. *Soil*, ordinary. *Position*, sunny, well-drained border. *Plant*, Oct. to Nov. *Propagate* by seeds sown in Mar., in pots or pans in cold frame.

Adiantum (Maidenhair Fern).—*Ord.* Filices. Stove, greenhouse, and hardy ferns. Evergreen. *Nat.* Jamaica, Peru, W. Indies, Madeira, Bolivia, New Grenada, Trop. America, Mexico, China, India, Britain, New Zealand, Brazil, Spain, Bermuda, Europe. *Int.* (foreign species) 1793. *Species* cultivated, 65. *Ht.* 4 in. to 3 ft. *Compost*, two parts peat, one part loam, silver sand, charcoal. *Pot.* Mar. *Water* moderately Sept. to Mar., freely afterwards. *Position*, shady at all times. *Plant* hardy species in Ap. in equal parts peat & loam in shady position. *Temp.*, stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse species, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on fine sandy peat kept moist & shaded under bell-glass.

Adlumia (Climbing Fumitory).—*Ord.* Fumariaceæ. Hardy biennial climber. *Nat.* N. America. *Int.* 1788. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, rose; June. *Soil*, light, rich. *Position*, warm border against south wall. *Plant*, May. *Propagate* by seeds sown $\frac{3}{4}$ in. deep in border in Ap., or in pots in temp. 55° to 65°, Mar.

Adonis Flower (*Adonis autumnalis*)—see Adonis.

Adonis-leaved Groundsel (*Senecio adonifolius*)—see Senecio.

Adonis (Pheasant's Eye).—*Ord.* Ranunculaceæ. Hardy annuals and perennial. *Nat.* Britain, Pyrenees, Russia. *Int.* (foreign species) 1629. *Species* cultivated, 4. *Ht.* 9 to 12 in. *Flowers*, crimson, yellow, red; Mar. to June. *Soil*, ordinary, rich. *Position*, open border for annuals, & rockeries for perennials. *Plant*, Oct. *Propagate* annuals by seeds sown shallow in borders in Mar.; perennials by division of roots in Oct. & by seeds sown as directed for annuals.

Æchmea.—*Ord.* Bromeliaceæ. Evergreen stove-flowering plants. *Nat.*

Basil, Columbia, Costa Rica, Trop. America, Cayenne, W. Indies. *Int.* 1824. *Species* cultivated, 18. *Ht.* 9 to 124n. *Flowers*, yellow, blue, scarlet, rose, red, violet; winter. *Compost*, equal parts of fibrous loam, rough peat, leaf-mould. *Pot*, Mar. *Water* freely always. Good drainage essential. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Ærides (Air-plant).—*Ord.* Orchidaceæ. Stove-flowering orchids. Evergreen. *Nat.* Burmah, Cochin China, Assam, E. Indies, Philippines, Malacca, Bombay. *Int.* 1800. *Species* cultivated, 20. *Flowers*, white, rose, purple, fragrant; Dec. to June. *Compost*, sphagnum moss, charcoal, broken potsherds. *Position*, pots, hanging baskets, or pieces of wood. *Pot*, after flowering. *Water* moderately in winter, freely other times. *Shade* from sun. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 85°. *Propagate* by division of plant with roots attached.

Æschynanthus (Blush-wort).—*Ord.* Gesneriaceæ. Stove trailing and flowering shrubs. Evergreen. *Nat.* Borneo, Java. *Int.* 1838. *Species* cultivated, 13. *Ht.* 1 to 2 ft. *Flowers*, red, orange, scarlet, crimson; May to Oct. *Compost*, equal parts fibrous peat, sphagnum moss, charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely in summer, moderately in winter. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings 3 in. long of firm shoots, inserted in pots of above compost mixed with sand in temp. 85°, Feb.

Æsculus (Horse Chestnut).—*Ord.* Sapindaceæ. Hardy trees. Deciduous. Flowering. *Nat.* Asia, N. America. *Int.* 1629. *Species* cultivated, 3. *Ht.* 20 to 40 ft. *Soil*, ordinary, deep. *Position*, shrubberies, woods, lawns, parks. *Plant*, Oct. to Mar. *Prune* straggling shoots in Nov. *Propagate* by seeds sown 3 in. deep in open border, Mar.; layering, Feb.; grafting, Mar.; budding, July.

Æthionema (Candy Mustard, Lebanon Candytuft).—*Ord.* Cruciferae. Hardy perennials and annuals. † Perennials evergreen. *Nat.* Asia, Mount Lebanon, Spain. *Int.* 1778. *Species* cultivated, 4. *Ht.* 3 to 18 in. *Flowers*, red, lilac, purple, rose; May to Aug. *Soil*, ordinary, light. *Position*, sunny rocky, well drained. *Plant*, Oct. or Mar. *Propagate* annuals by seeds sown $\frac{1}{2}$ in. deep in boxes, temp. 65°, Mar., or in open border, May; perennials by cuttings of shoots inserted in pots of sandy soil in cold frame, July or Aug.

African Blue Lily (*Agapanthus umbellatus*)—see *Agapanthus*.

African Corn Lily (*Ixia*)—see *Ixia*.

African Hare-Bell (*Roella ciliata*)—see *Roella*.

African Hemp (*Sparmannia africana*)—see *Sparmannia*.

African Marigold (*Tagetes erecta*)—see *Tagetes*.

African Myrtle (*Myrtus africana*)—see *Myrtus*.

African Oak (*Laurus bullata*)—see *Laurus*.

African Sleet-Bush (*Diosma alba*)—see *Diosma*.

African Tea-Plant (*Lycium afrum*)—see *Lycium*.

African Tulip (*Hemantthus*)—see *Hemantthus*.

African Wormwood (*Artemisia afra*)—see *Artemisia*. ma.

Agalmyla (Scarlet Root-blossom).—*Ord.* Gesneriaceæ. Stove trailing plant. Evergreen. *Nat.* Java. *Int.* 1846. *Species* cultivated, 1. *Flowers*, scarlet; May to Sept. *Compost*, equal parts peat, sphagnum moss & charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely Mar. to Sept., moderately Sept. to Mar. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots under bell-glass, in temp. 80°, July or Aug.

Aganisia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Demerara, Brazil. *Species* cultivated, 3. *Ht.* 8 to 10 in. *Flowers*, blue, white, yellow all times. *Compost*, fibry peat, charcoal. *Position*, pots well drained, blocks of wood. *Shade* from sun essential. *Water* freely when growing, moderately

when at rest. Temp., Sept. to Mar. 65° to 70°; Mar. to Sept. 75° to 85°. Propagate by division of pseudo-bulbs when new growth begins.

Agapanthus (African Lily).—*Ord.* Liliaceæ. Cool greenhouse herbaceous plant. Hardy S. England, Ireland. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1692. *Species* cultivated, 1; varieties, 8. *Flowers*, blue, white; June to Sept. *Compost*, two parts loam, one part leaf-mould, dried cow-manure, river sand pots or tubs, greenhouse; sunny. *Position*, well drained border or rockery out-doors. *Pot* or plant, Mar. *Water* freely Mar. to Sept., moderately afterwards. Temp., greenhouse, Sept. to Mar. 32° to 40°; Mar. to Sept. 45° to 55°. Propagate by division of plant in Mar.

Agathæa (Blue Marguerite, Cape Aster, Grass Thistle).—*Ord.* Compositæ. Greenhouse herbaceous perennial. *Nat.* Cape of Good Hope. *Int.* 1753. *Species* cultivated, 1. *Ht.* 18 in. *Flowers*, blue; May to Aug., out-doors; greenhouse, all the year. *Compost*, sandy loam two parts, leaf-mould & sand one part. *Position*, pots, sunny greenhouse, or warm beds out-doors, May to Sept. *Pot*, Mar. *Water* freely in sum., moderately other times. Propagate by cuttings of young shoots Mar. or Aug., in sandy soil, temp. 55° to 65°.

Agave (American Aloe, Century-plant, Mexican Soap-plant, Hemp-plant).—*Ord.* Amaryllidaceæ. Greenhouse plants. Orn. foliage & flowering. Evergreen. *Nat.* Mexico, S. America. *Int.* 1640. *Species* cultivated, 51. *Ht.* 8 in. to 6 ft. *Flowers*, yellowish-green or red, borne on spikes 1 to 40 ft. high when plants attain ten to sixty years of age; plant dies after flowering. *Compost*, two parts loam, one part old mortar & river sand. *Position*, pots or tubs in greenhouses may be stood outside June to Sept. *Water* moderately Ap. to Aug., little afterwards. *Pot*, every five or six years; good drainage essential. Temp., winter 50° to 55°; summer 55° to 65°. Propagate by offsets inserted in small pots at any time.

Ageratum (Bastard Agrimony, Floss-flower).—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Mexico, Monte Video. *Int.* 1822. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, rose, blue; May to Sept. *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. Propagate by seeds sown in light soil in temp. 65° to 70° in Mar., or by cuttings of young shoots from plants stored in temp. 55° during winter. Plants to produce cuttings keep in pots all the year & do not allow them to flower.

Aglaonema (Poison-dart).—*Ord.* Aroideæ. Stove perennials. *Nat.* Borneo, Philippines. *Int.* 1863. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, white, yellow, arum-shaped; Aug. *Leaves*, green, blotched with grey. *Compost* two-thirds loam, one-third leaf-mould, river sand. *Position*, well drained pots, shady. *Water* freely when growing, little afterwards. *Pot*, Mar. Temp. Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. Propagate by division of roots in Mar.

Ag-Leaf (*Verbascum Thapsus*)—see *Verbascum*.

Agrostemma (Rose Campion, Corn Cockle, Flower of Jove, Rose of Heaven).—*Ord.* Caryophyllaceæ. Hardy perennials & annuals. Perennials evergreen. *Nat.* Levant, S. Europe, Switzerland. *Int.* 1596. *Species* cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, white, rose, scarlet; June to Aug. *Soil*, ordinary. *Position*, warm dry borders. *Plant* perennials Oct., Nov., Mar. Propagate annuals by seed sown where plants are to flower in Ap.; perennials by seed sown $\frac{1}{2}$ in. deep in Ap., or division of root Oct. or Ap.

Agrostis (Cloud-grass, Spear-grass, Bent-grass, Cut-grass).—*Ord.* Graminæ. Hardy perennial & annual-flowering grasses. *Nat.* England, Russia. *Int.* (foreign species) 1834. *Species* cultivated, 4. *Ht.* 6 to 18 in. *Flowers*, green; summer; useful for drying for winter decoration. *Soil*, ordinary. *Position*, sunny border. Propagate by seed sown $\frac{1}{4}$ in. deep Ap. in open borders where plants are to grow. Sick cats & dogs chew this grass.

Ague-Tree (*Laurus sassafras*)—see *Laurus*.

Ailantus (Tree of Heaven, Tree of the Gods).—*Ord.* Xanthoxylaceæ.

Hardy deciduous tree. *Nat. China. Int. 1751. Species cultivated, 1. Ht. 30 to 60 ft. Flowers, white; Aug. Leaves, pinnate, 1 to 3 ft. long. Soil, light, rich. Position, sheltered, moist. Plant, Nov. Propagate by inserting portions of roots in pots of light soil in warm greenhouse or window in Mar., planting them out following Nov. Very handsome tree.*

Air-Plant (*Ærides odorata*)—see *Ærides*.

Ajax Daffodil (*Narcissus Ajax*)—see *Narcissus*.

Ajuga (Alpine Bugle, Brown Bugle, Gout Ivy).—*Ord. Labiatae.* Hardy annual and perennial herbaceous plants. *Nat. Europe, Britain. Int. (foreign species) 1732. Species cultivated, 6. Ht. 6 to 12 in. Flowers, blue, purple-yellow, white; May to July. Soil, ordinary. Position, shady beds or borders. Propagate annuals & perennials by seeds sown outdoors Ap.; perennials by division of roots Oct. or Mar.*

Akebia.—*Ord. Lardizabalaceae.* Half-hardy climbing flowering shrub. Evergreen. *Nat. Chusan. Int. 1845. Species cultivated, 1. Ht. 5 to 10 ft. Flowers, purple, fragrant; Mar. to June. Soil, loam, peat & sand in equal parts. Position, south wall in S. England & Ireland; cool greenhouse other parts. Plant, Oct., Nov., in border. Prune straggling shoots after flowering. Propagate by division of roots in Oct.; cuttings, inserted in sandy soil in cold frame in Sept.*

Alder-Buckthorn (*Rhamnus Frangula*)—see *Rhamnus*.

Alceost (*Tanacetum Balsamite*)—see *Tanacetum*.

Alexandrian Laurel (*Ruscus racemosus*)—see *Ruscus*.

Alexandrian Senna-Plant (*Cassia lanceolata*)—see *Cassia*.

Alexanders (*Smyrniurn olusatrum*)—see *Smyrniurn*.

Algerian Iris (*Iris stylosa*)—see *Iris*.

Algerian Silver Fir (*Picea numidica*)—see *Picea*.

Algerian Wax-Bean (*Phaseolus vulgaris*)—see *Phaseolus*.

Alisma (Water Plantain, Deil's Spoons).—*Ord. Alismaceae.* Hardy aquatic perennials. *Nat. Europe, Britain. Species cultivated, 2. Ht. 1 to 2 ft. Flowers, white, pale rose; June to Aug. Soil, ordinary. Position, margins of shallow lakes, ponds, ditches. Plant, Mar. Propagate by seeds sown ½ in. deep Mar. in a pan of sandy peat, plunged below the surface of the water, or by division of roots Ap.*

Alkanet (*Anchusa tinctoria*)—see *Anchusa*.

Almond-scented Orchid (*Odontoglossum madrense*)—see *Odontoglossum*.

Allamanda.—*Ord. Apocynaceae.* Stove climbing plant. Evergreen. *Nat. Brazil, Guiana, S. America. Int. 1785. Species cultivated, 7. Ht. 3 to 10 ft. Flowers, yellow; May to Sept. Compost, two parts fibry loam, one part leaf-mould, charcoal & coarse sand. Position, pot, tub, or planted in prepared border; shoots to be trained close to roof. Pot, Feb. Water freely Ap. to Aug., then moderately. Temp., Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. Prune shoots, in Jan., to within one joint of main branch. Propagate, in Jan., by cuttings of shoots of previous year's growth, 3 in. long, inserted in pots of sandy soil, temp. 80°.*

Alleghany Meadow-Sweet (*Spiraea corymbosa*)—see *Spiraea*.

Alleghany Vine (*Adlumia cirrhosa*)—see *Adlumia*.

All-Good (*Chenopodium Bonus-Henricus*)—see *Chenopodium*.

All-Heal (*Valerianella officinalis*)—see *Valerianella*.

Allion's Bell-Flower (*Campanula Allioni*)—see *Campanula*.

Allion's Primrose (*Primula Allioni*)—see *Primula*.

Allium (Garlic, Onion, Leek, Daffodil Garlic, Dwarf Moly).—*Ord. Liliaceae.* Hardy bulbous perennials. *Nat. California, Siberia, Palestine, S. Europe, England. Int. (foreign species) 1604. Species cultivated, 16. Ht. 2 in.*

to 3 ft. *Flowers*, yellow, rose, blue, purple, white, violet; May to Aug. *Soil*, light, sandy. *Position*, warm border. *Plant* bulbs 3 in. deep & 4 in. apart in Oct. or Nov. *Propagate* by offsets planted as directed for bulbs. One species—*Neapolitanum*—good for pot culture in cool greenhouse or for forcing. Put bulbs 2 in. deep & 1 in. apart in well-drained pots of sandy soil. *Water* freely when growing, moderately afterwards.

Allosorus (Curled Rock Brake or Parsley Fern).—*Ord.* Filices. Hardy fern. *Nat.* Britain. *Ht.* 8 to 12 in. *Compost*, good fibrous loam, peat, leaf-mould. *Position*, moist rockery, partially exposed to sun. *Plant*, Ap., placing small stones on the surface of compost. *Propagate* by division of plant in Ap.

Allspice (*Calycanthus floridus*)—see *Calycanthus*.

Allspice Tree (*Pimenta acris*)—see *Pimenta*.

Almond (*Amygdalus communis*)—see *Amygdalus*.

Alnus (Aar, Alder).—*Ord.* Betulaceæ. Hardy trees and shrubs. Deciduous. *Nat.* Calabria, Britain, Japan. *Int.* (foreign species) 1820. *Species* cultivated, 4. *Ht.* 8 to 60 ft. *Flowers* (catkins), greenish; Mar. to May. *Soil*, ordinary. *Position*, damp places. *Plant*, Nov. *Propagate* by seeds sown 1 in. deep in damp soil in Mar., transplanting the seedlings when a year old; or by suckers springing from the roots in Nov.

Alocasia (Taro Plant, Indian Kale).—*Ord.* Aroideæ. Stove plants. Orn. foliage. *Nat.* Borneo, Ceylon, India, Solomon's Isles. *Int.* 1854. *Species* cultivated, 16. *Ht.* 1 to 4 ft. *Compost*, equal parts peat, sphagnum moss, fibry loam, with a little silver sand & charcoal. *Pot*, Mar., keeping base of plant above rim of pot; good drainage essential. *Position*, pots, shady. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by division of rhizomes in Mar.

Aloe (Medicinal Aloes).—*Ord.* Liliaceæ. Greenhouse succulent plants. Orn. foliage. Evergreen. *Nat.* Abyssinia, S. Africa, China, Socotra. *Int.* 1596. *Species* cultivated, 38. *Ht.* 6 in. to 30 ft. *Flowers*, red, yellow. *Compost*, two parts loam, one part peat, old mortar, river sand. *Position*, pots or tubs, sunny greenhouse. *Water* moderately Ap. to Aug., little afterwards. *Pot*, Mar.; good drainage indispensable. *Temp.*, winter 50° to 55°; summer 55° to 65°. *Propagate* by seeds sown in well-drained pans of sandy soil, temp. 70°.

Aloe-leaved Adam's Needle (*Yucca aloifolia*)—see *Yucca*.

Alonsoa (Mask-flower).—*Ord.* Scrophulariaceæ. Half-hardy shrubs, herbaceous perennials & annuals. *Nat.* Chili, Mexico, Peru. *Int.* 1790. *Species* cultivated, 8. *Ht.* 1 to 2 ft. *Flowers*, white, scarlet; May to Oct. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots, greenhouse, windows, or sunny beds outdoors May to Sept. *Water* moderately always. *Pot*, Mar. *Plant*, May. *Temp.*, Sept. to May 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, Mar., temp. 60°, in sandy soil; cuttings, in pots of sandy soil, Aug.

Aloysia (Sweet-scented Verbena, Herb Louisa).—*Ord.* Verbenaceæ. Greenhouse deciduous shrub. Fragrant foliage. *Nat.* Chili. *Int.* 1781. *Species* cultivated, 1. *Ht.* 2 to 5 ft. *Flowers*, lilac; Aug. *Compost*, two parts loam, one leaf-mould & sand. *Position*, pots in windows or greenhouses; beds outdoors against south walls S. England & Ireland. *Pot* or plant Mar. *Water* freely Mar. to Sept., little afterwards. *Prune* shoots Feb. to within inch of base. *Temp.*, 45° to 60° in winter; 50° to 55° other times. *Propagate* by cuttings pulled off stem when 4 in. long & inserted in sandy soil under bell-glass, temp. 65°, Mar.

Alpinia (Indian Shell-flower).—*Ord.* Zingiberaceæ. Stove herbaceous perennials. *Nat.* Borneo, India, South Sea Islands. *Int.* 1792. *Species* cultivated, 3. *Ht.* 3 to 6 ft. *Flowers*, pink, fragrant; May. *Compost*, equal parts peat, leaf-mould & loam. *Position*, large pots, tubs, or beds. *Plant*, Mar.

Water freely Mar. to Aug., moderately other times. Propagate by division of roots in Ap.

Alpine Bell-Flower (*Campanula alpina*)—see Campanula.

Alpine Bladder Fern (*Cystopteris alpina*)—see Cystopteris.

Alpine Buckthorn (*Rhamnus alpinus*)—see Rhamnus.

Alpine Catch-Fly (*Silene alpestris*)—see Silene.

Alpine Cinquefoil (*Potentilla alpestris*)—see Potentilla.

Alpine Clematis (*Clematis alpina*)—see Clematis.

Alpine Eryngo (*Eryngium alpinum*)—see Eryngium.

Alpine Flax (*Linum alpinum*)—see Linum.

Alpine Forget-me-not (*Myosotis alpestris*)—see Myosotis.

Alpine Garlic (*Allium alpinum*)—see Allium.

Alpine Heron's-bill (*Erodium alpinum*)—see Erodium.

Alpine Larkspur (*Delphinium alpinum*)—see Delphinium.

Alpine Lavender-Cotton (*Santolina alpina*)—see Santolina.

Alpine Lungwort (*Mertensia alpina*)—see Mertensia.

Alpine Madwort (*Alyssum alpestre*)—see Alyssum.

Alpine Meadow-Rue (*Thalictrum alpinum*)—see Thalictrum.

Alpine Meadow-Saffron (*Colchicum alpinum*)—see Colchicum.

Alpine Pink (*Dianthus alpinus*)—see Dianthus.

Alpine Polypody (*Polypodium alpestre*)—see Polypodium.

Alpine Poppy (*Papaver alpinum*)—see Papaver.

Alpine Rose (*Rhododendron ferrugineum*, *R. hirsutum*, & *R. striatum*)—see Rhododendron.

Alpine Sedge (*Carex alpina*)—see Carex.

Alpine Speedwell (*Veronica alpina*)—see Veronica.

Alpine Strawberry (*Fragaria collina*)—see Fragaria.

Alpine Sun-rose (*Helianthemum alpestre*)—see Helianthemum.

Alpine Violet (*Viola montana*)—see Viola.

Alpine Whitlow-grass (*Draba alpina*)—see Draba.

Alpine Wind-Flower (*Anemone alpina*)—see Anemone.

Alpine Wormwood (*Artemisia alpina* & *A. mutellina*)—see Artemisia.

Alpine Rosy-flowered Thrift (*Armeria alpina rosea*)—see Armeria.

Alpine Toad-Flax (*Linaria alpina*)—see Linaria.

Alsophila (Grove Fern, Norfolk Island Fern).—*Ord.* Filices. Stove and greenhouse tree ferns. *Nat.* W. Indies, Java, New Holland, Queensland, Australia, Brazil. *Int.* 1833. *Species* cultivated, 20. *Ht.* 6 to 30 ft. *Compost*, two parts peat, one part loam, silver sand & charcoal. *Pot.* Mar. *Water* freely Mar. to Sept., moderately afterwards. *Position*, pots or tubs, shady. *Temp.*, stove, 60° to 70° Sept. to Mar., 70° to 80° Mar. to Sept.; greenhouse, 50° to 55° Sept. to Mar., 55° to 60° Mar. to Sept. *Propagate* by spores, similar to *Adiantum*.

Alströméria (Herb Lily).—*Ord.* Amaryllidaceæ. Hardy & half-hardy tuberous-rooted perennials. *Nat.* Brazil, Chili, Peru. *Int.* 1754. *Species* cultivated, 10. *Ht.* 1 to 2 ft. *Flowers*, orange, yellow, pink, crimson, scarlet, white; May to Sept. *Compost*, sandy loam, peat, leaf-mould, equal parts. *Plant.* Oct. *Position*, sunny, well drained border; or pots in cool greenhouse. *Water* freely in sum., moderately in winter. *Propagate* by seeds sown in deep, in sandy soil, in pans in cold frame, Mar.; division of roots Ap. or Oct.

Alternanthera (Joy-weed).—*Ord.* Amaranthaceæ. Half-hardy perennials. *Orn. foliage.* *Nat.* Brazil. *Int.* 1862. *Species* cultivated, 4; varieties numerous. *Ht.* 3 to 4 in. *Foliage*, crimson, red. *Soil*, ordinary. *Position*, sunny beds outdoors, May to Sept. *Plant*, May, 2 in. apart. *Life* in Sept., store in pots or boxes in temp. 55° to 65° during winter. *Propagate* by cuttings inserted in sandy soil, temp. 75°, Mar.

Altaiian Columbine (*Aquilegia alpina*)—see *Aquilegia*.

Altaiian Larch (*Larix Ledebouri*)—see *Larix*.

Altaiian Primrose (*Primula altaica*)—see *Primula*.

Altaiian Violet (*Viola altaica*)—see *Viola*.

Althæa.—See *Hollyhock*.

Alum-Root (*Heuchera americana*)—see *Heuchera*.

Alyssum (Madwort, Gold-dust, Golden-tuft, Gold Basket).—*Ord. Cruciferae*. Hardy annuals and perennials. *Nat.* Crete, S. & E. Europe, Asia Minor. *Int.* 1710. *Species* cultivated, 8. *Ht.* 3 to 12 in. *Flowers*, yellow; white; Ap. to Aug. *Soil*, ordinary. *Position*, open border or rockery, *Plant*, Oct. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap.. cuttings of young shoots inserted in sandy soil in cold frame Ap. & May.

Amaranth (*Gomphrena globosa*)—see *Gomphrena*.

Amaranth Feathers (*Humea elegans*)—see *Humea*.

Amber (*Hypericum perforatum*)—see *Hypericum*.

Amaranthus (Love-lies-bleeding, Prince's Feather, Velvet-flower).—Hardy & half-hardy annuals. *Nat.* India, Phillipine Isles. *Int.* 1596. *Species* cultivated, 7. *Ht.* 1 to 5 ft. *Flowers*, purple, crimson; June to Sept. *Foliage*, orange-ved, crimson, green. *Soil*, ordinary. *Position*, sunny bed. *Plant*, June. *Propagate* by seeds sown $\frac{1}{4}$ in. deep, in temp. 65° to 75°, Mar.; seedlings to be placed in cool greenhouse a few weeks before planting out.

Amaryllis (Daffodil or Belladonna Lily).—Hardy bulbous plant. Deciduous. *Nat.* W. Indies. *Int.* 1712. *Species* cultivated, 1. *Flowers*, reddish salmon; appear before foliage in Aug. & Sept. *Compost*, sandy loam, enriched with leaf-mould & cow manure. *Position*, well drained border foot of south wall. *Plant* bulbs 4 in. deep, June. *Propagate* by offsets in June. For greenhouse amaryllis see *Hippeastrum*.

Amelanchier (Grape-pear, Snowy Mespilus, June-berry).—Hardy flowering trees & shrubs. Deciduous. *Nat.* Europe, Canada, N. America. *Int.* 1596. *Species* cultivated, 3. *Ht.* 4 to 10 ft. *Flowers*, white; Ap. to May. *Soil*, ordinary. *Position*, open shrubbery. *Plant*, Nov. *Propagate* by grafting in Mar. on the quince or hawthorn.

American Black Currant (*Ribes floridum*)—see *Ribes*.

American Black Fir (*Abies nigra*)—see *Abies*.

American Black Larch (*Larix americana*)—see *Larix*.

American Black Oak (*Quercus tinctoria*)—see *Quercus*.

American Black-Thorn (*Cratægus tomentosa*)—see *Cratægus*.

American Blue Flag (*Iris versicolor*)—see *Iris*.

American Chestnut (*Castanea vesca*)—see *Castanea*.

American Common Blue Violet (*Viola cucullata*)—see *Viola*.

American Cotton Plant (*Gossypium herbaceum*)—see *Gossypium*.

American Cotton-Wood (*Populus monilifera*)—see *Populus*.

American Cress (*Barbarea præcox*)—see *Barbarea*.

American Cud-Weed (*Antennaria margarita*)—see *Antennaria*.

American Dwarf Black-Thorn (*Cratægus parvifolia*)—see *Cratægus*.

American Elder (*Sambucus canadensis*)—see *Sambucus*.

American Elm (*Ulmus americana*)—see *Ulmus*.

American False Heath (*Hudsonia ericoides*)—see *Hudsonia*.

American Flea-bane (*Erigeron philadelphicus*)—see *Erigeron*.

American Forget-me-not (*Myosotis verna*)—see *Myosotis*.

American Globe Flower (*Trollius laxus*)—see *Trollius*.

American Gooseberry (*Pereskia aculeata*)—see *Pereskia*,

American Grape Fern (*Botrychium lunarioides*)—see *Botrychium*.
American Great Laurel, (*Rhododendron, maximum*)—see *Rhododendron*.

American Ivy (*Ampelopsis hederacea*)—see *Ampelopsis*.

American Larkspur (*Delphinium exaltatum*)—see *Delphinium*.

American Laurel (*Kalmia latifolia*)—see *Kalmia*.

American Leopard's-bane (*Doronicum nudicaule*)—see *Doronicum*.

American Live Oak (*Quercus virens*)—see *Quercus*.

American Maidenhair Fern (*Adiantum pedatum*)—see *Adiantum*.

American Meadow-Sweet (*Spiraea salicifolia*)—see *Spiraea*.

American Mountain Tea-plant (*Gaultheria procumbens*)—see *Gaultheria*.

American Plane-Tree (*Platanus occidentalis*)—see *Platanus*.

American Poison Ivy (*Rhus toxicodendron*)—see *Rhus*.

American Polypody (*Polypodium incanum*)—see *Polypodium*.

American Red Larch (*Larix microcarpa*)—see *Larix*.

American Scrub Oak (*Quercus Catesbaei*)—see *Quercus*.

American "Spanish" Oak (*Quercus falcata*)—see *Quercus*.

American Swamp Laurel (*Kalmia glauca*)—see *Kalmia*.

American Toad-Flax (*Linaria canadensis*)—see *Linaria*.

American Virgin's Bower (*Clematis virginiana*)—see *Clematis*.

American Water Marigold (*Bidens Becki*)—see *Bidens*.

American White Fir (*Abies alba*)—see *Abies*.

American Wild Hazel (*Corylus americana*)—see *Corylus*.

American Wild Monkshood (*Aconitum uncinatum*)—see *Aconitum*.

American Wild Pink (*Silene pennsylvanica*)—see *Silene*.

American Witch Hazel (*Hamamelis virginica*)—see *Hamamelis*.

American Wood-Lily, Drooping (*Trillium cernuum*)—see *Trillium*.

American Wood-Lily, Dwarf White (*Trillium nivale*)—see *Trillium*.

American Wood-Lily, Painted (*Trillium erythrocarpum*)—see *Trillium*.

American Wood-Lily, Large White (*Trillium grandiflorum*)—see *Trillium*.

American Yew-Tree (*Taxus baccata*, var. *canadensis*)—see *Taxus*.

Amethyst Hyacinth (*Hyacinthus amethystinus*)—see *Hyacinthus*.

Amethyst Speedwell (*Veronica amethystina*)—see *Veronica*.

Amethyst Squill (*Scilla amethystina*)—see *Scilla*.

Ammobium (Everlasting Sand-flower).—Half hardy annual. *Nat.* New Holland. *Int.* 1822. *Species* cultivated, 1. *Ht.* 1 to 2 ft. *Flowers*, silvery white, useful for winter bouquets; May to Sept. *Soil*, light, rich. *Position*, warm border. *Plant*, May, 6 in. apart. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil, temp. 65°, Mar.

Ampelopsis (American Ivy, Virginian Creeper).—Hardy climbing plants. Deciduous. Orn. foliage. *Nat.* N. America, Virginia, Japan. *Int.* 1629. *Species* cultivated, 5. *Ht.* 20 to 30 ft. *Soil*, ordinary. *Position*, walls of any aspect, sunny or shady. *Plant*, Nov. to Mar. *Propagate* by cuttings of firm shoots 6 in. long, inserted in pots of sandy soil in cold frame or greenhouse, Sept.

Amygdalis (Almond).—Hardy flowering trees & shrubs. Deciduous. *Nat.* Barbary, Tartary, Caucasus, Cochin China. *Int.* 1548. *Species* cultivated, 5. *Ht.* 2 to 30 ft. *Flowers*, white, rose, red; Mar. to Ap. *Soil*, deep loam. *Position*, open shrubberies; suitable also for forcing or cool greenhouse culture in pots. *Pot*, Nov. *Prune*, Dec., simply removing crooked branches.

Propagate by stones sown 6 in. deep in open ground in Oct.; grafting in Mar. on young seedling plum trees.

Anæctochilus (King-plant).—Stove terrestrial orchids. Orn. foliage. *Nat.* Borneo, India, Java. *Int.* 1836. *Species* cultivated, 22. *Ht.* 3 to 6 in. *Leaves*, bronze, olive, golden, green. *Compost*, peat, sand, & sphagnum moss in equal parts. *Position*, shady, well drained pans under a bell-glass not fixed down quite close. *Water* moderately at all times. *Pot.*, Feb. or Mar. *Temp.*, Sept. to Feb. 55° to 65°; Mar. to Sept. 60° to 75°. *Propagate* in Feb. by inserting portions of stems in same compost as advised for plants, & under bell-glass.

Anagallis (Bog Pimpernel, Poor Man's Weather Glass).—Half-hardy annuals & hardy perennials. Trailing. *Nat.* Britain, Portugal. *Int.* (foreign species) 1796. *Species* cultivated, 6. *Ht.* 3 to 12 in. *Flowers*, vermilion, blue, pink; May to Sept. *Soil*, light, rich. *Position*, sunny well drained borders for annuals; moist & boggy places for perennials. *Propagate* annuals by seeds sown $\frac{1}{2}$ in. deep in temp. 65°, Mar., transplanting seedlings outdoors in June; perennials by division of roots in Mar.

Ananassa (Pine-apple).—Stove plants, bearing the well-known fruit—pine-apples. Orn. foliage. Evergreen. *Nat.* Philippines. *Int.* 1690. *Species* cultivated, 1, with prettily variegated variety. *Ht.* 2 ft. *Compost*, two parts decomposed fibry loam, one part well decayed manure, another part $\frac{1}{2}$ in. bones & pounded oyster shells. *Position*, pots in hothed (temp. 85°), stove facing south. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 90°. *Water* moderately in winter, freely in sum. *Propagate* by suckers, or crowns of fruit inserted in small pots in temp. 80°, spring.

Anchusa (Alkanet, Sea-bugloss).—Hardy annuals, biennials, & perennials. *Nat.* Britain, S. Europe, Cape of Good Hope, Caucasus. *Int.* (foreign species) 1596. *Species* cultivated, 8. *Ht.* 1 to 4 ft. *Flowers*, blue; May to Oct. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar. in pans or boxes of sandy soil, temp. 55° to 65°.

Anderson's Oak (*Quercus Andersoni*)—see *Quercus*.

Anderson's Speedwell (*Veronica Andersoni*)—see *Veronica*.

Andre's Flamingo-Plant (*Anthurium Andreanum*)—see *Anthurium*.

Andromeda (Marsh Rosemary, Wild Rosemary).—Hardy flowering shrub. Evergreen. *Nat.* Britain, N. America. *Species* cultivated, 1. *Ht.* 1 ft. *Flowers*, pink, white, red; June. *Soil*, boggy peat. *Position*, moist, shady. *Plant*, Oct. *Propagate* by layering shoots in Sept.

Androsace (Rock Jasmine).—Hardy annual & perennial alpine plants. *Nat.* Austria, Switzerland, Russia. *Int.* 1755. *Species* cultivated, 13. *Ht.* 2 to 9 in. *Flowers*, white, pink, red, rose; May to Oct. *Soil*, sandy peat & loam. *Position*, sunny rockeries, in fissures of stones, or under ledges of rock. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{10}$ in. deep in sandy peat in cold frame; cuttings in pots of sandy soil in frames in Sept. & Oct.; division of roots in Ap.

Anemia (Flower-fern, Ash-leaf fern).—Stove & greenhouse ferns. *Nat.* Brazil, Jamaica, Trop. America, W. Indies. *Int.* 1793. *Species* cultivated, 29. *Ht.* 4 to 12 in. *Compost*, equal parts loam, peat, leaf-mould, sand & charcoal. *Position*, shady, moist; useful for warden cases. *Pot.*, Feb., Mar. *Water* freely spring & sum., moderately other times. *Temp.*, stove, Mar. to Sept. 70° to 85°, Sept. to Mar. 60° to 65°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by spores similar to *Adiantum*.

Anemone (Wind-flower).—Hardy tuberous-rooted & herbaceous perennials. *Nat.* Britain, Europe, Switzerland, Carolina, N. America, Nepaul, France. *Int.* (foreign species) 1596. *Species* cultivated, 27. *Ht.* 6 in. to 3 ft. *Flowers*, white, yellow, blue, purple; Feb. to Oct. *Soil*, rich sandy loam. *Position*, sunny rockeries, beds, & borders for tuberous-rooted species; shady

borders for herbaceous species. *Plant* tubers 3 in. deep & 6 in. apart in Oct., Jan., Feb.; plants in Oct., Nov., Mar. Tubers of *A. coronaria* require lifting after flowering, drying & storing in cool place till required for replanting; other tuberous-rooted kinds leave in ground altogether. *Propagate* tuberous-rooted species by seeds sown $\frac{1}{2}$ in. deep in sheltered border outdoors, or pans in cold frame in Oct. or Mar.; herbaceous species by division of roots in Oct. or Mar.

Anemone-flowered Rose (*Rosa anemonæflora*)—see *Rosa*.

Anemone-flowered Camellia (*Camellia anemonæflora*)—see *Camellia*.

Anemonopsis (Yerba Mansa).—Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1869. *Species* cultivated, 1. *Ht.* 3 ft. *Flowers*, pale lilac; July. *Soil*, deep rich loam. *Position*, partially shaded border. *Plant*, Oct., Nov., Mar. *Propagate* by division of roots in Oct. or Mar.

Angelica (Ground Ash, Holy Ghost).—Perennial herbaceous herb used for flavouring confectionery & liquors. *Nat.* Britain. *Species* cultivated, 1. *Ht.* 3 ft. *Soil*, ordinary. *Position*, shady. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar. where plants are to remain. When seedlings are 3 in. high thin them to 6 in. apart.

Angel's Eyes (*Veronica chamædrys*)—see *Veronica*.

Angel's Trumpet (*Brugmansia suaveolens*)—see *Brugmansia*.

Angiopteris (Turnip-fern).—Greenhouse fern. Evergreen. *Nat.* Ceylon. *Species* cultivated, 1. *Ht.* 7 ft. *Compost*, equal parts peat, loam, leaf-mould, sand & charcoal. *Pot*, Feb., Mar. *Position*, pots or tubs in shade. *Water* freely in spring & sum., moderately other times. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 45° to 50°. *Propagate* by spores similar to *Adiantum*.

Angræcum (Bourbon Tea plant).—Epiphytal orchids. *Nat.* Cape Coast, Madagascar, Sierra Leone, Zanzibar, Comoro Islands. *Int.* 1815. *Species* cultivated, 25. *Ht.* 6 to 12 in. *Flowers*, white, fragrant; Oct. to Mar. *Compost*, equal parts broken potsherds, charcoal & sphagnum moss. *Position*, suspended baskets or well drained pots. *Pot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by division of plant in Mar.

Anguloea (Bull's Head Orchid).—*Ord.* Orchidaceæ. Stove orchids. *Nat.* Columbia. *Int.* 1842. *Species* cultivated, 8. *Ht.* 1 ft. *Flowers*, white, yellow, pink, fragrant; May to Aug. *Compost*, fibrous peat & charcoal. *Position*, pots, shady part of stove. *Pot* when new growth begins. *Water* freely May to Sept., very little afterwards. *Temp.*, Ap. to Sept. 65° to 75°; Sept. to Mar. 55° to 60°. *Propagate* by division of pseudo-bulbs when repotting.

Aniseed Tree (*Illicium floridanum*)—see *Illicium*.

Annual Everlasting (*Xeranthemum annua*)—see *Xeranthemum*.

Annual Mullein (*Verbascum Boerhaavi*)—see *Verbascum*.

Anomatheca (Flowering grass).—*Ord.* Iridaceæ. Hardy bulbous perennial. *Nat.* Cape of Good Hope. *Int.* 1830. *Species* cultivated, 1. *Ht.* 10 in. *Flowers*, crimson; June to Sept. *Compost*, sandy loam & leaf-mould. *Position*, sunny well drained borders or rockeries. *Plant* bulbs 4 in. deep & 3 in. apart; Sept. & Oct. *Propagate* by offsets at planting time. Useful for pot culture in cool greenhouses. Put six bulbs in a 6-in. pot in Sept. & treat like other bulbs.

Anopterus (Tasmanian Laurel).—*Ord.* Saxifrageæ. Greenhouse flowering shrub. Evergreen. *Nat.* Van Diemen's Land. *Int.* 1823. *Flowers*, rosy white; Ap. to June. *Species* cultivated, 1. *Ht.* 2 ft. 6 in. *Compost*, two parts loam, one part peat & sand. *Pot & prune*, Mar. *Position*, sunny greenhouse. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Water* moderately in winter, abundantly at other times. *Propagate* by cuttings of firm shoots 8 in. long in sandy peat under bell-glass in temp. 65° in sum.

Antartic Birch (*Betula antarctica*)—see *Betula*.

Antennaria (Cat's-ear, Mountain Cud-weed, Silvery Cud-weed, Cotton-weed).—*Ord.* Compositæ. Hardy herbaceous perennial alpine. *Nat.* Britain. *Species* cultivated, 3. *Ht.* 2 in. to 2 ft. *Flowers*, pink white; June to Aug. *Leaves*, silvery white; useful for carpet bedding. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Plant*, Mar. or Oct. *Propagate* by division of roots in Mar.

Anthemis (Silvery Chamomile, Yellow-flowered Chamomile, Common Chamomile).—*Ord.* Compositæ. Hardy perennials. *Nat.* Greece, England. *Species* cultivated, 12. *Ht.* 2 to 15 in. *Flowers*, white, yellow; May to Aug. *Soil*, ordinary. *Position*, open border or rockery. *Plant*, Oct. or Mar. *Propagate* by division of roots at planting time.

Anthericum (St. Bruno's Lily, St. Bernard's Lily, Branched Spider-wort).—*Ord.* Liliacæ. Hardy & half-hardy herbaceous perennials. *Nat.* S. Europe, S. Africa. *Int.* 1596. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white, fragrant; May to June. *Soil*, light rich. *Position*, moist, partially shaded. *Plant*, Oct., Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in cold frame in Sept. or Mar.; division of roots in Oct. *A. variegatum* is an effective plant for pot culture in cool greenhouses. *Water* freely in sum., little in winter.

Antholyza (African Corn-flag).—*Ord.* Iridacæ. Hardy bulbous perennials. *Nat.* Cape of Good Hope. *Int.* 1756. *Species* cultivated, 3. *Ht.* 2 to 3 ft. *Flowers*, scarlet, green, black; June, July. *Soil*, light, sandy. *Position*, sunny border, well drained; pots in cool greenhouse. *Plant* bulbs 4 in. deep, 6 in. apart in border, or six in a 6-in. pot, Oct. Bulbs to be lifted in Aug., dried & stored till Oct. in cool place. *Propagate* by offsets at planting time.

Anthony-Nut (*Staphylea pinnata*)—see *Staphylea*.

Anthoxanthum (Sweet Vernal-grass).—*Ord.* Gramineæ. Hardy perennial flowering grass. *Nat.* Britain. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow; June; useful for winter bouquets. *Soil*, ordinary. *Plant*, Oct. or Mar. *Position*, open border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep where plants are to grow in Ap.; division of roots, Oct. or Mar.

Anthurium (Flamingo-plant, Tail-flower).—*Ord.* Aroideæ. Stove plants. Flowering & orn. foliage. *Nat.* Brazil, Columbia, New Grenada, Venezuela, Costa Rica. *Species* cultivated, 22. *Ht.* 1 to 3 ft. *Flowers*, red, scarlet, white; Mar. to Aug. *Leaves*, velvety green. *Compost*, equal parts rough peat, sphagnum moss. *Position*, pots, well drained, shady. *Pot*, Mar. *Water* freely Mar. to Nov., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by division of roots in Mar.

Anthyllis (Kidney Vetch, Jupiter's Beard, Silver-bush, Hedge-hog-plant, Lamb's Toes, Lady's Fingers, Wound-wort).—*Ord.* Leguminosæ. Hardy shrubs & herbaceous perennials. *Nat.* Britain, S. Europe, Spain, Corsica. *Int.* (foreign species) 1640. *Species* cultivated, 5. *Ht.* 3 in. to 3 ft. *Flowers*, yellow, purple, pink, white; Mar. to July. *Soil*, ordinary. *Position*, open or partially shaded border. *Plant*, Oct. *Propagate* shrubby kinds by cuttings of young shoots under bell-glass in cold frame in Mar.; herbaceous species by seeds sown $\frac{1}{2}$ in. deep in warm border in Ap. or by division of root in Oct.

Antirrhinum (Snapdragon, Dragon's Mouth, Lion's Mouth).—*Ord.* Scrophulariacæ. Hardy herbaceous perennial. *Nat.* England. *Species* cultivated, 1. *Ht.* 2 ft. *Flowers*, various colours; Ap. to Nov. *Soil*, ordinary. *Position*, warm dry borders, rockeries, or walls. *Plant*, Ap. *Propagate* by seeds sown in temp. 70° in Mar. or outdoors in Ap., transplanting seedlings in May; cuttings of young shoots in cold frame in Aug. Best treated as annual or biennial, fresh plants being raised every year.

Aotus.—*Ord.* Leguminosæ. Greenhouse flowering shrub. Evergreen. *Nat.* New Holland. *Int.* 1844. *Species* cultivated, 1. *Ht.* 3 ft. *Flowers*,

crimson, yellow; May. *Compost*, equal parts loam, peat, sawdust, charcoal. *Pot*, Mar. *Position*, pots, well drained, light & sunny. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 60°. *Propagate* by cuttings of firm shoots in pots of sandy soil under bell-glass, temp. 55°.

Apes-on-Horseback (*Bellis perennis*)—see *Bellis*.

Apennine Sun-Rose (*Helianthemum apenninum*)—see *Helianthemum*.

Aphelandra.—*Ord.* Acanthaceæ. Stove flowering shrubs. Evergreen. *Nat.* Columbia, New Grenada, Mexico, Brazil. *Int.* 1733. *Species* cultivated, 9. *Ht.* 18 in. to 3 ft. *Flowers*, orange, red, yellow, scarlet; Oct. to Dec. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, pots, moist atmosphere. *Water* freely in sum., moderately in winter. *Prune* shoots to within inch of base in Feb. & repot in Mar. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots inserted in sandy soil in bottom-heat (80°) Mar. or Ap.

Aphelexis.—*Ord.* Compositæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1735. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white, pink, purple, rose; sum. *Compost*, two parts peat, one leaf-mould, sand & charcoal. *Position*, light, sunny. *Pot* firmly in Feb. *Water* moderately at all times. *Propagate* by cuttings inserted, Ap. or July, in well drained pots of sandy peat under bell-glass.

Apios (American Ground Nut).—*Ord.* Leguminosæ. Hardy tuberous-rooted climbing perennial. Deciduous. *Nat.* Pennsylvania. *Int.* 1640. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, purple, fragrant; June to Oct. *Soil*, ordinary. *Position*, warm border against south wall. *Plant* tubers in Mar. *Propagate* by division of tubers in Mar.

Aponogeton (Cape Pond-weed, Winter Hawthorn).—*Ord.* Naiadaceæ. Hardy floating aquatic. *Nat.* Cape of Good Hope. *Int.* 1788. *Species* cultivated, 1. *Flowers*, white, fragrant; winter. *Soil*, ordinary. *Position*, shallow ponds or lakes where there is a stream of water, or in greenhouse tanks & aquaria. *Plant*, in pots, sinking the latter in the water. Mar. Not hardy in the north. *Propagate* by offsets.

Apple (*Pyrus malus*).—*Ord.* Rosaceæ. Indigenous to Britain. *Varieties* in cultivation, 1,545. *Soil*, deep loam. *Position*, for orchards, land sloping to S.E. & S.W., just above valley; for gardens, open, sheltered, well drained. *Plant*, Nov., Dec., Jan. *Distances apart* cordons, 18 in.; bushes, 5 to 6 ft.; pyramids, 10 ft.; fan-trained, 15 ft.; espaliers, 18 ft.; standards, 25 ft. *Prune*, June & Dec. Shoots to form spurs prune to 2 in.; those to form branches, 6 to 8 in. *Root-prune*, Sept. *Gather fruit*, Aug., Sept., Oct. *Propagate* for new sorts by seeds sown 3 in. deep outdoors in Mar.; grafting on paradise or crab in Mar., or budding in July & Aug., to perpetuate existing varieties.

Apennine Wind-Flower (*Anemone apennina*)—see *Anemone*.

Apple Orchis (*Orchis simia*)—see *Orchis*.

Apple-Bearing Rose (*Rosa villosa pomifera*)—see *Rosa*.

Apple-Bearing Sage (*Salvia pomifera*)—see *Salvia*.

Apple Moss, Common (*Bartramia pomiformis*)—see *Bartramia*.

Apple-Pie (*Epilobium hirsutum*)—see *Epilobium*.

Apple-Scented Gum Tree (*Eucalyptus Stuartiana*)—see *Eucalyptus*.

Apricot (*Armeniaca vulgaris*).—*Ord.* Rosaceæ. *Nat.* Central Asia. *Int.* 1562. *Varieties* in cultivation, 10. *Soil*, sandy loam. *Position*, against south walls. *Plant*, Oct., Nov. *Shape of tree*, fan-trained. *Distance apart*, 20 ft. *Prune*, Jan., Feb. Fruit is borne on shoots one, two, & three years old. Shorten shoots not required to form branches to within an inch of their base. *Root-prune*, Sept. *Propagate* by budding in June on the Mussel, Black Damson, & Brussels plum; sowing stones in Aug. in light rich soil.

Aquilegia (Columbine).—*Ord.* Ranunculaceæ. Hardy perennial

alpinæ. *Nat.* Switzerland, Tyrol, Mount Olympus, California, Himalayas, Siberia, N. America, England. *Int.* (foreign species) 1640. *Species* cultivated, 13. *Ht.* 9 in. to 3 ft. *Soil*, sandy loam, enriched with leaf-mould. *Position*, moist, sheltered & sunny rockeries & borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame in Aug.; division of the roots in Oct. or Ap.

Arabian Jasmine (*Jasminum Sambac*)—see *Jasminum*.

• **Arabian Tea-Plant** (*Cutha edulis*)—see *Cutha*.

Arabic Gum-Plant (*Acacia arabica*)—see *Acacia*.

Arabis (Wall Cress, Rock Cress).—*Ord.* Cruciferae. Hardy perennial alpine trailing plants. *Nat.* Caucasus, Hungary, S. Europe, Servia, Britain. *Int.* (foreign species) 1596. *Species* cultivated, 7. *Ht.* 4 to 12 in. *Soil*, ordinary. *Position*, well drained borders, sunny rockeries. *Plant*, Oct. & Nov. *Propagate* by seeds sown $\frac{1}{4}$ in. deep outdoors in Ap.; cuttings inserted in shady border in Aug.; division of roots in Oct.

Aralia (Wild Sarsaparilla, Wild Elder, Chinese Paper plant, Shot-bush).—*Ord.* Araliaceae. Stove, greenhouse, & hardy plants. Orn. foliage. Evergreen & deciduous. *Nat.* Japan, New Zealand, Polynesia, South Sea Islands, N. America. *Int.* 1658. *Species* cultivated, 18. *Ht.* 3 to 20 ft. *Compost*, equal parts loam, peaty leaf-mould, charcoal & sand. *Pot*, Feb. to Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, stove, Mar. to Sept. 70° to 80°, Sept. to Mar. 60° to 70°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 55°. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap. Hardy species require rich soil, warm border, & protection in winter.

Araucaria (Monkey Puzzle, Chilean Pine, Moreton Bay Pine, Norfolk Island Pine, New Caledonian Pine).—*Ord.* Coniferae. Hardy & half-hardy trees. Evergreen. Orn. foliage. *Nat.* Moreton Bay, Chili, Norfolk Island, Brazil. *Int.* 1796. *Species* cultivated, 9. *Ht.* 15 to 160 ft. *Soil*, deep rich loam. *Position* hardy species, high, dry, & sheltered outdoors; tender species, in pots or tubs in cool greenhouse. *Water* those in pots moderately always. *Propagate* by seeds sown 1 in. deep in light soil, temp. 65°, Feb., Mar., Ap.

Arbor-Vitæ (*Thuia occidentalis*)—see *Thuia*.

Arbutus (Cane-apple, Strawberry-tree).—*Ord.* Ericaceae. Hardy orn. foliage trees. Evergreen. *Nat.* Ireland, Greece, Canary Islands, Chili, N. America. *Int.* (foreign species) 1724. *Species* cultivated, 2. *Flowers*, white, red; May to Sept. *Fruit*, globular, scarlet; ripe in Oct., year after flowering. *Soil*, sandy peat. *Position*, sunny, sheltered. *Plant*, Sept. to Dec. *Propagate* by seeds sown 1 in. deep in well drained pans of sandy peat in cold frame in Mar.; budding in July or Aug.; or inarching in Ap.

Archangel (*Angelica officinalis*)—see *Angelica*.

Ardisia (Spear-flower).—*Ord.* Myrsinaceae. Stove flowering & berry-bearing plants. Evergreen. *Nat.* Mexico. *Int.* 1809. *Species* cultivated, 4. *Ht.* 3 to 6 ft. *Flowers*, reddish violet; June. *Berries*, coral-red; winter. *Compost*, equal parts loam, peat, leaf-mould & sand. *Pot*, Feb. to Mar. *Position*, pots, light. *Water* freely in sum., little in winter. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in above compost in temp. 75° in spring; cuttings of side shoots in similar soil & temp., Mar.

Areca (Cabbage Palm, Betel-nut Palm, Walking stick Palm).—*Ord.* Palmaceae. Stove palms. Orn. foliage. *Nat.* India, Ceylon. *Int.* 1690. *Species* cultivated, 3. *Ht.* 6 to 30 ft. *Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, shady, moist. *Water* freely at all times. *Pot*, Feb., Mar. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds similar to *Acanthophaenix*.

Arenaria (Sand wort).—*Ord.* Caryophyllaceae. Hardy herbaceous perennials. *Nat.* Caucasus, Corsica, Ireland, France, Siberia, Pyrenees.

Int. 1731. *Species* cultivated, 7. *Ht.* 3 to 6 in. *Flowers*, white, purple, Mar. to Aug. *Soil*, ordinary. *Position*, exposed or shaded rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in boxes in cold frame, Mar.; cuttings under bell-glass in open, Ap.; division of plants in Oct. or Mar.

Arethusa.—*Ord.* Orchidaceæ. Hardy terrestrial bulbous orchid. *Nat.* Carolina. *Species* cultivated, 1. *Ht.* 8 in. *Flowers*, rosy-purple, fragrant; May. *Compost*, sphagnum moss & well decayed manure. *Position*, damp, shady. *Plant*, Oct. to Dec. *Protect* bulbs in winter by covering of decayed leaves. *Propagate* by offsets in autn.

Argemone (Mexican Poppy, Thistle Oil plant, Infernal Fig, Devil's Fig, Yellow Thistle, Prickly Poppy).—*Ord.* Papaveraceæ. Hardy annuals & perennials. Flowering. *Nat.* California, Mexico. *Int.* 1592. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, white, yellow; July to Oct. *Soil*, sandy. *Position*, sunny border, well drained. *Plant*, Mar. *Propagate* both annuals & perennials by seeds sown $\frac{1}{2}$ in. deep in sandy soil outdoors in Mar.; perennials will not flower till following year.

Aristolochia (Birth-wort, Dutchman's Pipe).—*Ord.* Aristolochiaceæ. Stove, greenhouse, & hardy climbing plants. Evergreen & deciduous. *Nat.* Brazil, Mexico, India, Jamaica, N. & S. America, New Grenada. *Int.* 1727. *Species* cultivated, 12. *Ht.* 5 to 30 ft. *Flowers*, purple, yellow, white, curiously shaped; all times. *Compost*, two-thirds loam, one-third leaf-mould & sand. *Position*, pots or borders; shoots trained close to roof for stove & greenhouse species; south walls & arbours for hardy species. *Pot* or plant, Mar. *Water* freely in sum., little in winter. *Temp.*, stove species, Mar. to Sept. 70° to 80°, Sept. to Mar. 60° to 65°; greenhouse, Mar. to Sept. 55° to 60°, Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in light rich soil in temp. 75° in Mar.; cuttings in similar soil & temp., Feb.

Armenian Grape Hyacinth (*Muscaria armeniacum*)—see *Muscaria*.

Armeria (Thrift, Sea pink, Lady's Pincushion, Cushion-pink).—*Ord.* Plumbaginaceæ. Hardy perennial alpinæ. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1800. *Species* cultivated, 7. *Ht.* 3 to 12 in. *Flowers*, rose, crimson; May & June. *Soil*, sandy loam. *Position*, open borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy soil in pans in cold frame, Ap.; division of plants in Oct. or Mar.

Arnebia (Prophet flower, Russian Bugloss).—*Ord.* Boraginaceæ. Hardy herbaceous perennial. *Nat.* Armenia. *Species* cultivated, 1. *Ht.* 9 to 12 in. *Flowers*, yellow, purple; May. *Soil*, ordinary. *Position*, open rockery, well drained. *Plant*, Oct. or Mar. *Propagate* by cuttings inserted in sandy soil in Sept. in cold frame.

Arpophyllum.—*Ord.* Orchidaceæ. Greenhouse terrestrial orchids. Evergreen. *Nat.* New Grenada, Mexico. *Species* cultivated, 3. *Ht.* 1 to 2 ft. *Flowers*, rosy-purple, dark red; Ap., July, Jan. *Compost*, good fibry peat & charcoal. *Pot*, Feb. or Mar. *Position*, well drained pots. *Temp.*, Oct. to Feb. 45° to 55°; other times 55° to 65°. *Water* moderately in winter, freely in sum. *Propagate* by division of plants when repotting.

Arrow-Head (*Sagittaria sagittifolia*)—see *Sagittaria*.

Arrow-Leaved Violet (*Viola sagittata*)—see *Viola*.

Arrow-Root Plant (*Maranta arundinaceæ*)—see *Maranta*.

Arrow-Wood Tree (*Viburnum ellipticum*)—see *Viburnum*.

Artemisia (Old Man, Old Woman, Mug-wort, Wormwood, Tarragon, Southern-wood).—*Ord.* Compositæ. Hardy shrubs & herbaceous perennials with hoary & fragrant foliage. Evergreen & deciduous. *Nat.* Siberia, S. Europe, Norway, Britain. *Int.* (foreign species) 1548. *Species* cultivated, 9. *Ht.* 6 in. to 5 ft. *Flowers*, yellow, white; June to Aug. *Soil*, ordinary. *Position*, open border for tall species, rockery for dwarf kinds. *Plant*, Oct. or Mar.

Propagate shrubby kinds by cuttings inserted in shady border July to Sept.; herbaceous species by division of roots in Oct. or Mar.; both by seeds sown in light soil in cold frame in Mar.

Artic Bramble (*Rubus articus*)—see Rubus.

Artichoke—see Globe & Jerusalem Artichokes.

Artillery Plant (*Pilea muscosa*)—see Pilea.

Artocarpus (Bread-fruit or Jack-tree).—*Ord.* Urticaceæ. Stove evergreen trees. Orn. foliage. *Nat.* South Sea Islands. *Int.* 1793. *Species* cultivated, 2. *Ht.* 7 to 50 ft. *Leaves*, large, crimson or green. *Compst.*, two parts loam, one part leaf-mould & sand. *Pot.*, Feb, Mar. *Position*, shady & moist. *Prune* into shape, Feb. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sep. 65° to 75°; Sept. to Mar. 55° to 60°. *Propagate* by stem-rooting firm shoots in Feb., Mar.; suckers at any time.

Arum (Cuckoo-pint, Lords & Ladies, Common Dragon, Adder's Meat, Mandrake, Italian Arum).—*Ord.* Aroideæ. Stove, greenhouse, & hardy herbaceous perennials; only the latter worth growing. *Nat.* Britain, S. Europe, Channel Islands. *Int.* (foreign species) 1570. *Species* cultivated, 5. *Ht.* 6 in. to 2 ft. *Flowers*, yellow, purple; Mar. to July. *Soil*, rich, light. *Position*, sunny borders & bogs. *Propagate* by division of roots in Ap.

Arum Lily (*Richardia æthiopica*)—see Richardia.

Arundinaria (Bamboo).—*Ord.* Gramineæ. Hardy shrubby grasses. Orn. foliage. *Nat.* India, Japan. *Species* cultivated, 2. *Ht.* 3 to 6 ft. *Soil*, deep, rich, moist. *Position*, lawns, shrubberies, sheltered; not hardy N. of England. *Plant*, Ap. *Propagate* by division of roots in Ap.

Arundo (Reed grass).—*Ord.* Gramineæ. Hardy perennial grasses. Flowering & orn. foliage. *Nat.* New Zealand, S. Europe. *Int.* 1648. *Species* cultivated, 3. *Ht.* 3 to 12 ft. *Flowers*, white or red; Aug. to Oct. *Soil*, loamy. *Position*, moist, sheltered, lawns. *Plant*, Ap. *Propagate* by division of roots in spring.

Ascending Gentian (*Gentiana adscendens*)—see Gentiana.

Asclepias (Milk-weed, Swallow-wort).—*Ord.* Asclepiadiaceæ. Hardy herbaceous perennials or dwarf shrubs. *Nat.* New England, Canada, Mexico, Virginia, New Jersey. *Int.* 1690. *Species* cultivated, 7. *Ht.* 1 to 4 ft. *Flowers*, white, orange, red, purple, fragrant; June to Sept. *Soil*, rich, light peat. *Position*, sunny borders, damp places. *Plant*, Oct. or Ap. *Propagate* by division of roots in Oct. or Ap. All require protection in severe weather.

Ash-Barberry (*Mahonia aquilifolium*)—see Mahonia.

Ash-Leaf Fern (*Marattia fraxinea*)—see Marattia.

Ash-Leaved Maple (*Acer negundo*)—see Acer.

Ash-Leaved Rose (*Rosa fraxinifolia*)—see Rosa.

Ash-Leaved Sage (*Salvia interrupta*)—see Salvia.

Asiatic Barberry (*Berberis asiatica*)—see Berberis.

Asiatic Globe-Flower (*Trollius asiaticus*)—see Trollius.

Asiatic Stone-Crop (*Sedum asiaticum*)—see Sedum.

Asparagus Bean (*Dolichus squipedulus*)—see Dolichus.

Asparagus (Sparrow-grass).—*Ord.* Liliaceæ. Hardy, greenhouse, & climbing perennials. Evergreen & deciduous. Orn. foliage. *Nat.* Cape of Good Hope, Canary Islands, Britain. *Int.* (foreign species) 1792. *Species* cultivated, 6. *Ht.* 3 to 12 ft. *Foliage*, dark green, finely divided, graceful. *Compost* for greenhouse species, two parts loam, one part decayed manure & sand. *Pot.*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Soil* for hardy species, rich, sandy. *Position*, sunny, against walls or arbours. *Plant*, Oct. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar.; division of roots in Mar. For culture of asparagus as a vegetable see Addend^m.

Aspen (*Populus tremula*)—see *Populus*.

Asperula (Quinsey-wort, Wood-ruff).—*Ord.* Rubiaceæ. Hardy herbaceous perennials & annuals. *Nat.* Britain, S. Europe. *Int.* (foreign species) 1739. *Species* cultivated, 2. *Ht.* 6 to 12 in. *Flowers*, white, sky-blue; May to Aug. *Foliage*, fragrant when dry. *Soil*, light, rich. *Position*, shade of trees or open borders. *Plant*, Oct., Nov. *Propagate* perennial species by division of roots in Mar.; perennials & annuals by seeds sown $\frac{1}{2}$ in. deep in open border in Ap.

Asphodelus (Jacob's Rod, King's Spear, Silver Rod).—*Ord.* Liliacæ. Hardy herbaceous perennials. *Nat.* S. Europe. *Int.* 1596. *Species* cultivated, 2. *Ht.* 2 to 5 ft. *Flowers*, white; May to July. *Soil*, ordinary. *Position*, shady or open borders. *Plant*, Oct. *Propagate* by division of root Oct. or Ap.

Asphodeline (Yellow Asphodel).—*Ord.* Liliacæ. Hardy herbaceous perennials. *Nat.* Asia Minor, Sicily, S. Europe. *Int.* 1596. *Species* cultivated, 3. *Ht.* 18 in. to 4 ft. *Flowers*, yellow, white; May to July. *Soil*, ordinary. *Position*, open or shady borders. *Plant*, Oct. or Mar. *Propagate* by division of roots Oct. or Mar.

Aspidistra (Parlour Palm).—*Ord.* Liliacæ. Greenhouse plants. Evergreen. Orn. foliage. *Nat.* Japan, China. *Int.* 1822. *Species* cultivated, 2, with variegated variety. *Ht.* 1 to 2 ft. *Leaves*, large, green, or variegated with white. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 50° to 55°. Good window or room plant. *Propagate* by division of roots in Mar.

Aspidium (Shield or Wood Fern).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. *Nat.* N. America, Japan, India, Natal, Madeira, Chili, Phillipines, W. Indies. *Species* cultivated, 17. *Ht.* 1 to 3 ft. *Compost*, two parts peat, one part loam, silver sand & charcoal. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Shade* from sun. *Temp.* for stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. Hardy kinds plant in equal parts peat & loam in shady position in Ap. *Water* freely in sum. *Propagate* by spores similar to *Adiantum*.

Asplenium (Spleen-wort, Oak Fern, Lady Fern, Bird's-nest Fern, Walking-leaf Fern, English Maidenhair, Wall-rue).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. *Nat.* India, Sandwich Islands, America, Queensland, Africa, New Zealand, Madagascar, Asia, Europe, Britain, Ceylon, Australia. *Int.* (foreign species) 1680. *Species* cultivated, 107. *Ht.* 6 in. to 4 ft. *Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Plant* hardy species in equal parts peat & loam in shady position in Ap. *Water* freely in sum. *Propagate* by spores similar to *Adiantum*.

Ass's Foot (*Tussilago Farfara*)—see *Tussilago*.

Asses Parsley (*Æthusa cynapium*)—see *Æthusa*.

Aster (Starwort, Michaelmas Daisy).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America, Europe, Siberia. *Int.* 1633. *Species* cultivated, 45. *Ht.* 6 in. to 7 ft. *Flowers*, white, blue, red, purple; July to Nov. *Soil*, ordinary. *Position*, shady, open border, rockeries. *Plant*, Nov. to Mar. *Propagate* by division of roots in Mar. For annual asters see *China Aster*.

Astilbe (False Goat's beard).—*Ord.* Saxifragacæ. Hardy herbaceous perennials & shrubs. *Nat.* India, Japan. *Species* cultivated, 3. *Ht.* 1 to 3 ft. *Flowers*, white; May. *Soil*, loamy. *Position*, moist, shady borders. *Plant*, Oct. *A. japonica* used largely for pot culture, forcing, & for green-

houses. •*Pot* roots in Oct. in equal parts loam & leaf-mould in 5 or 6 in. pots & place in cold frame until required to force. *Water* abundantly whilst growing, very little when at rest. Plants should only be forced one year, then planted out for two years, afterwards lifted for forcing again. *Propagate* by division of roots after flowering. Shrubby species plant in ordinary soil in shrubbery in Nov.

Astragalus (Milk Vetch, Gum Tragacanth plant).—*Ord.* Leguminosæ. Hardy perennials & shrubs. Evergreen & deciduous. *Nat.* Europe, Siberia, Persia, N. America. *Levant.* *Int.* 1570. *Species* cultivated, 17. *Ht.* 2 to 3 ft. *Flowers*, yellow, purple, rose; June, July. *Soil*, ordinary. *Position*, open border for tall, & rockery for dwarf perennials; shrubbery for shrubby species. *Plant*, Oct., Nov., Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in cold frame in Mar.

Athyrium—see Aspidium.

Atrange—see Clematis.

Atriplex—see Orache.

Attic Bell-Flower (*Campanula attica*)—see Campanula.

Aubergine—see Egg-Plant.

Aubretia (Purple Rock-cress).—*Ord.* Crucifereæ. Hardy trailing perennial. Evergreen. *Nat.* Naples. *Int.* 1710. *Species* cultivated, 1. *Ht.* 2 to 4 in. *Flowers*, purple; Mar. to June. *Soil*, ordinary. *Position*, sunny rockery or border. *Plant*, Oct., Nov. *Propagate* by slips dibbled in shady border in June, transplanting them in Nov.; seeds sown in shady border in Ap. This plant may be grown on old walls if seeds are sown in mossy chinks in Mar.; useful also for edgings to borders & for spring bedding.

Aucher's Crocus (*Crocus Aucheri*)—see Crocus.

Aucuba (Spotted Laurel, Variegated Laurel).—*Ord.* Cornaceæ. Hardy evergreen shrub. Orn. foliage. *Nat.* Japan. *Int.* 1783. *Species* cultivated, 1. *Ht.* 3 to 10 ft. *Soil*, ordinary. *Position*, open or in shade; grand town shrub. *Plant*, Oct., Nov., Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in cold frame in Oct.; cuttings inserted in sandy soil in sheltered border or cold frame in Sept., Oct., Nov. Female aucubas bear red berries freely in winter if a male plant be planted close to them, or if a branch of male blossom be placed on female plant when in bloom. Aucubas useful for pot culture in cool greenhouses or windows in winter.

Aucuba-Leaved Daisy (*Bellis aucubæfolia*)—see Bellis.

Auricula (Primula Auricula).—*Ord.* Primulacæ. Hardy alpine flowering perennial. Evergreen. *Nat.* European Alps. *Int.* 1596. *Species* cultivated, 1; varieties numerous. *Ht.* 4 in. *Flowers*, various colours; spring. *Alpine* type have blooms one colour, white or yellow eye, stems smooth and free from powder. *Florists'* type, stems & blooms covered with mealy powder; blooms with more than one colour & white, grey, or green-edged petals. *Properties* of florists' auricula: Stem erect, elastic, carrying truss well above foliage; stalk proportionately long to size of petals; pipe (blooms) seven to each truss, round; anthers, bold; eye, white, smooth & round; colours, well defined, rich; edges, distinct. *Compost*, two parts turfy loam, one part cow manure, leaf-mould, half a part silver sand. *Position*, choice kinds in 3 in. pots in airy frame or cool greenhouse; others in rich soil in shady borders. *Pot & plant*, Feb. or Mar. *Water* those in pots moderately in winter, freely other times. *Top-dress* with rich soil in Mar. plants that were not repotted. *Liquid manure* apply in a weak state to plants in flower. *Propagate* by seeds sown in pans of light rich soil, just covered with fine soil, in Mar. in cold frame or greenhouse; by offsets in Feb.

Australian Everlasting (*Helichrysum lucidum* or *H. bracteatum*, & *Helipterum Manglesi*)—see Helichrysum & Helipterum.

Australian Flea-Bane (*Erigeron mucronatus*)—see Erigeron.

- Australian Giant Lily** (*Doryanthes excelsa*)—see *Doryanthes*.
Australian Hare-Bell (*Wahlenbergia gracilis*)—see *Wahlenbergia*.
Australian Manna-Tree (*Eucalyptus mannifera*)—see *Eucalyptus*.
Australian Mistletoe (*Loranthus*)—see *Loranthus*.
Australian Myrtle (*Acmena floribunda*)—see *Acmena*.
Australian Native Rose (*Boronia serrulata*)—see *Boronia*.
Australian Pitcher-Plant (*Cephalotus follicularis*)—see *Cephalotus*.
Australian Slender-Leaved Myrtle (*Myrtus tennifolia*)—see *Myrtus*.
Australian Starwort (*Aster argophylla*)—see *Aster*.
Australian Three-Nerved Myrtle (*Myrtus trinervis*)—see *Myrtus*.
Australian Tree Fern (*Dicksonia antarctica*)—see *Dicksonia*.
Australian Vine (*Vitis acatosa*)—see *Vitis*.
Australian Vine (*Vitis hypoglauca*)—see *Vitis*.
Australian Water-Lily (*Nymphaea gigantea*)—see *Nymphaea*.
Austrian Briar (*Rosa lutea*)—see *Rosa*.
Austrian Dragon's Head (*Dracocephalum austriacum*)—see *Dracocephalum*.
Austrian Dwarf Rose (*Rosa pumila*)—see *Rosa*.
Austrian Laburnum-Tree (*Cytisus austriacus*)—see *Cytisus*.
Austrian Leopard's-Bane (*Doronicum austriacum*)—see *Doronicum*.
Austrian Maple (*Acer campestre* var. *austriacum*)—see *Acer*.
Austrian Rose (*Rosa lutea* var. *punicea*)—see *Rosa*.
Austrian Speedwell (*Veronica austriaca*)—see *Veronica*.
Autumn Bell-Flower (*Gentiana pneumonanthe*)—see *Gentiana*.
Autumn Catch-Fly (*Silene Schafta*)—see *Silene*.
Autumn Crocus (*Colchicum autumnale*)—see *Colchicum*.
Autumn-Flowering Monkshood (*Aconitum autumnale*)—see *Aconitum*.
Autumn-Flowering Squill (*Scilla autumnalis*)—see *Scilla*.
Autumn Gentian (*Gentiana amarella*)—see *Gentiana*.
Ave Grace (*Ruta graveolens*)—see *Ruta*.
Avens (*Geum urbanum*)—see *Geum*.
Awn-Leaved Barberry (*Berberis aristata*)—see *Berberis*.
Ayrshire Rose (*Rosa arvensis* var. *scandens*)—see *Rosa*.
Azalea (Ghent Azalea, Indian Azalea, False Honeysuckle).—*Ord.* Ericaceæ. Greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* N. America, Levant, Japan, China. Indian Azalea int. 1808; Ghent Azalea, 1734. *Ht.* 3 to 10 ft. *Flowers*, various; spring. *Compost*, two parts peat, one part loam, loaf-mould & sand. *Pot* firmly June to Aug. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 60°; Mar. to Sept. 55° to 65°. *Prune* straggling shoots after flowering. *Shade* & abundance of air needful. *Hardy* species plant in peaty soil in Oct. & Nov. *Propagate* by cuttings in sandy soil under bell-glass in temp. 60° to 70° in Mar.; grafting in similar tem. in Mar., the latter being the quickest method of propagation.
Azara.—*Ord.* Bixineæ. Hardy evergreen shrub. *Orn.* foliage. *Nat.* Chiloe. *Int.* 1873. *Species* cultivated, 1. *Ht.* 6 to 12 ft. *Foliage*, dark green, finely divided, drooping, graceful. *Soil*, ordinary. *Position*, against south wall. *Plant*, Oct. or Ap. *Propagate* by cuttings inserted in sandy soil in temp. 65° in Mar.
Azorean Forget-me-not (*Myosotis azorica*)—see *Myosotis*.
Azorean Thyme (*Thymus azoricus*)—see *Thymus*.
Azores Juniper (*Juniperus cedrus* var. *brevifolia*)—see *Juniperus*.
Azores Laurel (*Laurus azorica*)—see *Laurus*.

Azure Larkspur (*Delphinium azureum*)—see Delphinium.

Azure-Flowered Lungwort (*Pulmonaria azurea*)—see Pulmonaria.

Azure Stone-Crop (*Sedum cyaneum*)—see Sedum.

Azure Thyme (*Thymus azureus*)—see Thymus.

Babianæ (Baboon root).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* Cape of Good Hope. *Iyt.* 1752. *Species* cultivated, 6. *Ht.* 6 to 12 in. *Flowers*, blue, lilac, cream, yellow, crimson, scarlet, fragrant; *Ap.* to July. *Soil*, light sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift & replant* bulbs annually. *Compost* for pot culture, two parts sandy soil & one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs 3 in. deep in each pot in Nov., & cover pots with cocoanut-fibre refuse until growth begins. *Water*, moderately from time bulbs begin to grow until flowers fade, then gradually withhold it, keeping bulbs dry from Sept. to Jan. *Temp.*, Sept. to Feb. 40° to 50°; other times 50° to 60°. *Propagate* by offsets, treated as advised for bulbs.

Babylonian Centaury (*Centaurea babylonica*)—see Centaurea.

Bachelor's Button (*Silene pendula*)—see Silene.

Backwort (*Symphytum officinale*)—see Symphytum.

Bacon-Weed (*Chenopodium album*)—see Chenopodium.

Bactris (Marajah Palm, Tobago Cane, Prickly Pole).—*Ord.* Palmaceæ. Stove palms. *Orn. foliage.* *Nat.* America, Brazil. *Int.* 1825. *Ht.* 20 to 50 ft. *Species* cultivated, 2. *Compost*, equal parts loam, leaf-mould & sand. *Pot*, Feb., Mar. *Water* moderately Sept. to Mar., freely afterwards. *Position*, shady & moist in sum. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by removing young plants from base of old one in Mar., & placing these in small pots.

Badger's Bane (*Aconitum meloctonum*)—see Aconitum.

Badmoxey (*Meum athamanticum*)—see Meum.

Bæria.—*Ord.* Compositæ. Half-hardy annual. *Nat.* California. *Int.* 1835. *Species* cultivated, 1. *Ht.* 8 to 12 in. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown ½ in. deep in Ap. where plants are to flower.

Bahia (Woolly Bahia).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* N. America. *Species* cultivated, 1. *Ht.* 6 to 18 in. *Int.*, date unknown. *Flowers*, yellow; May to Aug. *Leaves*, grey. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. to Ap. *Propagate* by seeds sown ½ in. deep outdoors in Ap. or division of old plants in Mar.

Bald Cypress (*Taxodium distichum*)—see Taxodium.

Baleaic Box Tree (*Buxus balearica*)—see Buxus.

Baleartic Sandwort (*Arenaria balearica*)—see Arenaria.

Balloon Vine (*Cardiospermum halicacabum*)—see Cardiospermum.

Balm (*Melissia officinalis*)—see Melissia.

Balm of Gilead (*Cedronella triphylla*)—see Cedronella.

Balm of Heaven (*Oreodaphne californica*)—see Oreodaphne.

Balmoney (*Chelone glabra*)—see Chelone.

Balsam Apple (*Momordica balsaminea*)—see Momordica.

Balsam (*Impatiens balsaminea*)—see Impatiens.

Balsam Poplar (*Populus balsamifera*)—see Populus.

Bamboo Cane (*Bambusa arundinacea*)—see Bambusa.

Bambusa (Bamboo Cane, Fortune's Bamboo, Metaké Bamboo, Striped Bamboo, Golden Bamboo).—*Ord.* Gramineæ. Hardy, half-hardy, & greenhouse shrubs. *Orn. foliage.* *Nat.* India, China, Japan. *Int.* 1736. *Species* cultivated, 6. *Ht.* 1 to 40 ft. *Soil* for outdoor culture, rich loamy. *Position*,

moist, sheltered. *Protect in winter. Plant, Ap. Compost for pot culture, equal parts leaf-mould, loam & sand. Pot, Mar. Water carefully in winter, abundantly in sum. Temp., Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 65°.* *Propagate by division of old plants in Mar.*

Band Plant (*Vinca major*)—see *Vinca*.

Baneberry (*Actæa spicata*)—see *Actæa*.

Bank Cress (*Barbarea præcox*)—see *Barbarea*.

Banksia (Tasmanian Honeysuckle, Australian Honeysuckle).—*Ord.* Protacææ. Greenhouse shrubs. *Orn. foliage. Evergreen. Nat. Australia. Int. 1788. Ht. 5 to 20 ft. Species cultivated, 6. Leaves, large, dark green, downy beneath. Compost, equal parts peat, loam & sand. Pot in Mar. in well drained pots. Water moderately in winter, freely in sum. Temp., Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°.* *Propagate by cuttings of firm shoots in well drained pots of sandy soil in July under bell-glass in temp. 55° to 65°.*

Banner Plant (*Anthurium Scherzerianum*)—see *Anthurium*.

Ban-Nut (*Juglans regia*)—see *Juglans*.

Banyan Tree (*Ficus indica*)—see *Ficus*.

Baptisia (White, Blue, & Tall False-indigo).—*Ord.* Leguminosæ. Hardy herbaceous perennials. *Nat. N. America. Int. 1724. Species cultivated, 3. Ht. 1 to 5 ft. Flowers, white, blue, yellow; June to Aug. Soil, ordinary. Position, sunny well drained border. Plant, Oct. to Ap. Propagate by seeds sown $\frac{1}{2}$ in. deep in sandy soil in shallow boxes in cold frame in Ap. or in sunny border outdoors in May; division of old plants in Mar.*

Barbadoes Cedar (*Juniperus barbadensis*)—see *Juniperus*.

Barbadoes Cotton Plant (*Gossypium barbadense*)—see *Gossypium*.

Barbadoes Gooseberry (*Pereskia aculeata*)—see *Pereskia*.

Barbadoes Lily (*Hippeastrum equestre*)—see *Hippeastrum*.

Barbadoes Onion (*Ornithogalum scilloides*)—see *Ornithogalum*.

Barbara's Herb (*Barbarea vulgaris*)—see *Barbarea*.

Barbarea (St. Barabara's Herb, Winter & American Cress, Double Yellow Rocket).—*Ord.* Cruciferae. Hardy perennial herbs. *Nat. Britain. Species cultivated, 2. Ht. 1 to 2 ft. Flowers, yellow; sum. Soil, ordinary. Position, open garden. Winter Cress good for salads. Sow seeds of this in drills $\frac{1}{2}$ in. deep & 9 in. apart in Sept. & Mar. Cut leaves off when required for use. Water freely in dry weather. Propagate double rocket by division of roots in Mar. Golden-leaved variety of latter very pretty; easily raised from seed sown outdoors in Mar.*

Barberry Bark Plant (*Berberis aristata*)—see *Berberis*.

Barberry (*Berberis aristata*)—see *Berberis*.

Barber's Brushes (*Dipsacus sylvestris*)—see *Dipsacus*.

Barfoot (*Helleborus fatidus*)—see *Helleborus*.

Bargeman's Cabbage (*Brassica campestris*)—see *Brassica*.

Barkeria.—*Ord.* Orchidaceæ. Greenhouse orchids. Deciduous. *Nat. Mexico, Costa Rica, Guatemala. Int. 1836. Ht. 1 to 2 ft. Species cultivated, 6. Flowers, white, red, rose; Feb. to Nov. Compost, sphagnum moss & fibry peat. Position, blocks of wood near the glass. Temp., Sept. to Mar. 45° to 65°; Mar. to Sept. 50° to 65°.* *Water freely twice a day from Ap. to Aug.; at other times give very little. Propagate by offsets removed from old plants & fixed to small blocks of wood.*

Barleria.—*Ord.* Acanthaceæ. Stove flowering shrub. Evergreen. *Nat. India, Natal, Mauritius. Int. 1769. Ht. 2 to 3 ft. Species cultivated, 3. Flowers, yellow, white, purple; Nov. to July. Compost, two parts peat & loam, one part decayed manure & sand. Pot in Mar. in well drained pots.*

Temp., Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 85°. *Water* moderately in winter, freely in sum. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 85°, Mar. to July.

Barm-Leaf (*Melissa officinalis*)—see *Melissa*.

Barnabas Thistle (*Centaurea solstitialis*)—see *Centaurea*.

Barrelîer's Bellflower (*Campanula Barrelieri*)—see *Campanula*.

Barren Ivy (*Hedera helix*)—see *Hedera*.

Barren Strawberry (*Potentilla fragariastrum*)—see *Potentilla*.

Barrow Roses (*Rosa spinosissima*)—see *Rosa*.

Bartonia (Golden Barton's Flower).—*Ord.* Loasacæ. *Hardy* annual. *Nat.* California. *Int.* 1834. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, golden; June to Aug. *Soil*, ordinary. *Position*, sunny well drained border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap. where plants are intended to flower.

Barton's Flower (*Bartonia aurea*)—see *Bartonia*.

Bartramia (Common Apple Moss).—*Ord.* Bryacæ. A moss of no cultural value; used sometimes for placing on surface of soil of pot plants for decoration.

Base Broom (*Genista tinctoria*)—see *Genista*.

Base Rocket (*Reseda luteola*)—see *Reseda*.

Basket Fern (*Nephrodium filix-mas*)—see *Nephrodium*.

Basket Fuchsia (*Fuchsia procumbens*)—see *Fuchsia*.

Bass (*Scirpus lacustris*)—see *Scirpus*.

Basil (*Ocimum basilicum*)—see *Ocimum*.

Bastard Box Tree (*Eucalyptus leucoxylon*)—see *Eucalyptus*.

Bastard Balm (*Melittis melissophyllum*)—see *Melittis*.

Bastard Speedwell (*Veronica spuria*)—see *Veronica*.

Batatas (Spanish or Sweet Potato).—*Ord.* Convolvulacæ. Green-house climber. Deciduous. Tuberous-rooted. *Nat.* E. Indies. *Int.* 1797. *Ht.* 2 to 4 ft. *Flowers*, white, purple; sum. *Compost*, two parts loam & one part decayed manure. *Plant* tubers singly in 6 in. pots in Feb., in temp. 65°, or 6 in. deep & 8 in. apart in prepared border in greenhouse. *Water* moderately Feb. to May.; freely May to Sept., then give none, keeping tubers dry. Tubers are edible. *Propagate* by division of tubers in Feb.; cuttings of young shoots in Ap.

Batemannia.—*Ord.* Orchidacæ. Stove orchids. Evergreen. *Nat.* Brazil, Costa Rica, New Grenada. *Int.* 1834. *Species* cultivated, 6. *Ht.* 6 to 12 in. *Flowers*, green, yellow, brown, purple; June to Nov. *Compost*, equal parts fibry peat & sphagnum moss. *Position*, well drained pots, or on blocks of wood. *Repot*, Mar. *Water* three times weekly Ap. to Aug.; once a week other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by division of old plants at potting time.

Bauhinia (Snake-charm, St. Thomas's Tree).—*Ord.* Leguminosæ. Stove flowering shrub. Evergreen. *Nat.* India, Ceylon, Caraccas, Malabar. *Int.* 1690. *Species* cultivated, 4. *Ht.* 6 to 20 ft. *Flowers*, pink, white, yellow, red; June to Aug. *Compost*, equal parts peat & loam, one-sixth sand. *Put* firmly in Mar. *Position*, light, sunny, moist in sum. *Water* freely Mar. to Sept.; moderately other times. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 75° in July.

Beal's Barberry (*Berberis Beali*)—see *Berberis*.

Beam Tree (*Pyrus aria*)—see *Pyrus*.

Bean Tree, Australian (*Bauhinia Hookeri*)—see *Bauhinia*.

Bean Tree (*Ceratonis siligua*)—see *Ceratonis*.

Bean Trefoil—old name for Laburnum, which see

Bear-Bane (*Aconitum arctophnum*)—see *Aconitum*.

- Bear Barley** (*Hordeum vulgare* var. *hexastichum*)—see *Hordeum*.
Bear-bind (*Convolvulus arvensis*, *Polygonum convolvulus*, & *Lonicera perichymentum*)—see *Convolvulus*, *Polygonum*, & *Lonicera*.
Bear Grass (*Yucca filamentosa*)—see *Yucca*.
Bearded Bellflower (*Campanula barbata*)—see *Campanula*.
Beard Tongue (*Pentstemon digitalis*)—see *Pentstemon*.
Bear's-breech (*Acanthus mollis*)—see *Acanthus*.
Bear's Ear (*Primula auricula*)—see *Primula*.
Bear's Ear Sanicle (*Cortusa Matthioli*)—see *Cortusa*.
Bear's-foot (*Helleborus fatidus* & *Aconitum napellus*)—see *Helleborus* & *Aconitum*.
Bear's Garlick (*Allium ursinum*)—see *Allium*.
Bear's Grass (*Camassia esculenta*)—see *Camassia*.
Bear-wort (*Meum athamanticum*)—see *Meum*.
Beasts' Bane (*Aconitum theriophorum*)—see *Aconitum*.
Beaucarnea.—*Ord.* Liliaceæ. Greenhouse plants. Evergreen. Orn. foliage. *Nat. Mexico. Int.* 1815. *Species* cultivated, 5. *Ht.* 3 to 10 ft. *Leaves*, long, narrow, green. *Compost*, two parts fibrous loam, one part silver sand. *Pot*, Mar., in well drained pots. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in sandy loam in temp. 65° in Feb. or Mar.
Beaufortia (Beaufort Myrtle).—*Ord.* Myrtaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* New Holland. *Int.* 1803. *Ht.* 3 to 8 ft. *Species* cultivated, 2. *Flowers*, scarlet; May to July. *Compost*, equal parts leaf-mould, loam, & peat, one-sixth sand. *Pot & prune*, Mar.; make soil quite firm & drain pots well. *Water* freely May to Aug., moderately at other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of firm shoots inserted in sandy soil in temp. 55° to 65° in sum.
Beaumontia (Nepaul Trumpet-flower).—*Ord.* Apocynaceæ. Stove climber. *Nat.* E. Indies. *Int.* 1820. *Ht.* 8 to 12 ft. *Species* cultivated, 1. *Flowers*, white; June to Aug. *Compost*, equal parts peat & loam, one-sixth sand. *Position*, large tub or border, well drained. Shoots to climb roof. *Pot* or plant, Mar. *Water* abundantly May to Aug., moderately afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings inserted in sandy soil in temp. 75° in Mar.
Beaver Tree (*Magnolia glauca*)—see *Magnolia*.
Bed-bind (*Convolvulus sepium*)—see *Convolvulus*.
Bede Sedge (*Sparganium ramosum*)—see *Sparganium*.
Bedeween (*Betula alba*)—see *Betula*.
Bedlam Cowslip (*Pulmonaria officinalis*)—see *Pulmonaria*.
Bee Balm (*Monarda didyma*)—see *Monarda*.
Bee-bread (*Trifolium pratense*)—see *Trifolium*.
Beech (*Fagus sylvatica*)—see *Fagus*.
Beech-fern (*Polypodium phegopteris*)—see *Polypodium*.
Beech-Wheat (*Polygonum fagopyrum*)—see *Polygonum*.
Bee-flower (*Ophrys apifera*)—see *Ophrys*.
Beef-steak Plant (*Begonia Evansiana*)—see *Begonia*.
Beef-suet Tree (*Shepherdia argentea*)—see *Shepherdia*.
Bee Larkspur (*Delphinium grandiflorum*)—see *Delphinium*.
Bee Nettle (*Galeopsis tetrahit* & *Lamium album*)—see *Galeopsis* & *Lamium*.
Bee's Nest (*Daucus carota*)—see *Daucus*.
Bee Orchis (*Ophrys apifera*)—see *Ophrys*.
Beet (*Beta vulgaris*)—see *Beta*.
Beggar's Basket (*Pulmonaria officinalis*)—see *Pulmonaria*.

Begonia (Elephant's-ear, Beefsteak-plant, Jamaica Wood Sorrel).—*Ord.* Begoniaceæ. *Stove & greenhouse plants.* Evergreen & deciduous. Flowering & orn. foliage *Nat.* Bolivia, Mexico, India, Java, Japan, China, New Grenada, Ecuador, Jamaica, Assam. *Int.* 1777. *Species* cultivated, 25; hybrids & varieties innumerable. *Ht.* 6 in. to 5 ft. *Flowers*, various colours: all times of the year. *Tuberous kinds:* *Compost*, equal parts leaf-mould, loam, & sand. *Pot* tubers in small pots in Mar. & shift into larger size in May. *Water* moderately Mar. to May, freely May to Sept, moderately Sept. to Nov., none afterwards. *Store* tubers in cocoanut-fibre refuse Nov. to Mar. *Plant* in open beds in May, lift in Oct. *Propagate* by seeds sown on the surface of fine sandy soil in well drained pan in temp. 65° in Mar.; seeds not to be covered with soil. *Ornamental foliage kinds:* *Compost*, equal parts peat, loam, leaf-mould, & sand. *Pot*, Mar. *Position*, shady. *Water* freely May to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by leaf cuttings at any time. *Winter-flowering kinds:* *Compost*, same as for tuberous sorts. *Pot*, Mar. to July. *Water* freely in sum., moderately other times. *Propagate* by cuttings inserted in light sandy soil in temp. 70° in spring, or seeds similar to tuberous kinds.

Belgian Variegated Arborvitæ (*Thuia occidentalis* var. *compacta*)—see *Thuia*.

Belladonna Lily (*Amaryllis belladonna*)—see *Amaryllis*.

Bell-bind (*Convolvulus sepium*)—see *Convolvulus*.

Bell-bottle (*Scilla nutans*)—see *Scilla*.

Bellevallia (Roman Squill)—see *Hyacinthus*.

Belleisle Cress (*Barbarea præcox*)—see *Barbarea*.

Bellflower (*Campanula calycanthemata*)—see *Campanula*.

Bell-flowered Borage (*Borago laxiflora*)—see *Borago*.

Bell Heather (*Erica tetralix*)—see *Erica*.

Bellidialstrum (Daisy Star).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Austria. *Int.* 1570. *Species* cultivated, 1. *Ht.* 10 to 12 in. *Flowers*, white; June to Aug. *Soil*, light, rich. *Position*, sunny border. *Plant*, Mar. *Propagate* by division of old plants in Mar.

Bellis (Daisy, Bone-flower, Herb Margaret, Gowan, Bairn-wort, Ban-wort, Apes-on-Horseback, Hen & Chickens Daisy).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* England. *Species* cultivated, 1. *Ht.* 3 in. *Flowers*, white, red; Ap. to June. *Soil*, ordinary. *Position*, sunny or shady. *Plant*, Oct. or Mar. *Propagate* by division of old plant in June, inserting divisions 3 in. apart in shady border; seeds sown $\frac{1}{2}$ in. deep in boxes of light soil in cold frame in Mar., transplanting seedlings in open border in July.

Bellium (False Daisy).—*Ord.* Compositæ. Hardy annuals & perennials. *Nat.* Italy, Sardinia, Levant, Morocco. *Int.* 1772. *Species* cultivated, 4. *Ht.* 3 to 6 in. *Flowers*, white, blue, yellow; May to Sept. *Soil*, sandy loam. *Position*, open border sheltered from north-east winds. *Plant*, Ap. *Propagate* perennials by division of plants in Mar.; annuals by seeds sown similar to *Bellis*.

Bell Rose (*Narcip sseuseudo-narcissus*)—see *Narcissus*.

Bellwort (*Uvularia grandiflora*)—see *Uvularia*.

Bell-weed (*Centaurea nigra*)—see *Centaurea*.

Belly-ache Bush (*Jatropha gossypifolia*)—see *Jatropha*.

Beloperone.—*Ord.* Acanthaceæ. *Stove* flowering shrubs. Evergreen. *Nat.* New Grenada, Brazil. *Int.* 1832. *Species* cultivated, 3. *Ht.* 2 to 3 ft. *Flowers*, purple, violet; May to Sept. *Compost*, equal parts leaf-mould, loam, & sand. *Pot*, Mar., moderately firm. *Position*, shady, moist. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Water* freely May to Sept., moderately afterwards. Remove points of shoots occasionally in sum. to induce dwarf growth. *Propagate* by cuttings inserted singly in small pots of light sandy soil in temp. 75° in Feb., Mar., or Ap.

Bembil (*Eucalyptus populifolia*)—see *Eucalyptus*.

Ben (*Silene inflata*)—see *Silene*.

Bengal Rose (*Rosa bengalensis*)—see *Rosa*.

Benjamin Bush (*Lindera Benzoni*)—see *Lindera*.

Benner-Gowan (*Bellis perennis*)—see *Bellis*.

Benthamia.—*Ord.* Cornaceæ. Hardy flowering shrub. * Evergreen. *Nat.* Nepaul. *Int.* 1825. *Species* cultivated, 1. *Ht.* 10 to 15 ft. *Flowers*, white; June to Oct. *Soil*, rich loam. *Position*, well drained border, sheltered from N. & E. winds. *Plant*, Oct. or Ap. *Propagate* by layering shoots in Sept.; seeds sown $\frac{1}{2}$ in. deep in pots of light soil in temp. 55° in spring.

Bent-grass (*Agrostis vulgaris*)—see *Agrostis*.

Ben-weed (*Senecio Jacobæa*)—see *Senecio*.

Bent-wood (*Hedera helix*)—see *Hedera*.

Berberidopsis (Coral berry).—*Ord.* Berberidaceæ. Hardy climbing shrub S. of England; half-hardy N. Evergreen. Flowering. *Nat.* Chili. *Int.* 1862. *Species* cultivated, 1. *Ht.* 5 to 10 ft. *Flowers*, crimson; sum. *Soil*, sandy loam. *Position*, against south or west wall; protect in severe winter with straw or mats. Good wall shrub for cool greenhouse. *Plant*, Oct. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil, in temp. 55° in Mar.; cuttings of young shoots in similar soil & temp.; layering of shoots in the open in Sept., Oct., or Nov.

Berberis (Barberry, Jaundice-berry, Jaundice-tree).—*Ord.* Berberidaceæ. Hardy flowering & orn.-leaved shrubs. Evergreen & deciduous. *Nat.* Mexico, Chili, Peru, Nepaul, N. America, China, Japan, Britain, Siberia, Straits of Magellan. *Int.* (foreign species) 1790. *Species* cultivated, 22. *Ht.* 1 to 20 ft. *Flowers*, orange, May to Oct. *Compost*, two parts loam, one part peat & sand. *Position*, sunny or shady. *Plant*, Sept., Oct., Mar., Ap. *Propagate* by seeds sown 1 in. deep in sheltered border in Oct. or Nov.; cuttings of firm shoots in sandy soil in cold frame in Sept.; layering shoots in Oct. Berries of Common Barberry (*Berberis vulgaris*) make excellent preserves, candy, or pickle. Inner bark forms a yellow dye for tanning leather.

Berchemia (Supple Jack).—*Ord.* Rhamnaceæ. Hardy climbing shrub. Deciduous. *Nat.* Carolina. *Int.* 1714. *Species* cultivated, 1. *Ht.* 15 ft. * *Flowers*, green; June, July. *Soil*, sandy loam. *Position*, against south wall, well drained border. *Plant*, Oct. to Feb. *Prune*, Feb., cutting off soft points of strong shoots & removing weak shoots altogether. *Propagate* by cuttings of shoots 6 in. long inserted half their depth & 3 in. apart in sheltered border in Oct.

Bergamot Mint (*Mentha citrata*)—see *Mentha*.

Bergamot Oil Plant (*Citrus Bergamia*)—see *Citrus*.

Bergamot Orange Tree (*Citrus Bergamia*)—see *Citrus*.

Berkheya (South African Thistle).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* S. Africa. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, purple; Aug. to Nov. *Soil*, ordinary. *Position*, open border. *Plant*, Oct. to Ap. *Propagate* by division of old plants in Mar. or Ap.

Bermuda Lily (*Lilium Harrisii*)—see *Lilium*.

Bermuda Satin-flower (*Sisyrinchium bermudianum*)—see *Sisyrinchium*.

Berry-bearing Alder (*Rhamnus frangula*)—see *Rhamnus*.

Bertolonia.—*Ord.* Melastomaceæ. Stove trailing plants. Orn. foliage. *Nat.* Brazil, Ecuador. *Int.* 1850. *Ht.* 3 to 4 in. *Species* cultivated, 3. *Leaves*, upper sides, dark green, white, purple; under sides, pink, purple. *Compost*, equal parts peat, leaf-mould, & sand. *Position*, well drained pans covered with bell-glass in shade. *Pot*, Feb. or Mar. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 75° to 85°. *Water* daily Ap. to Sept., once or twice a week at other times. *Propagate* by cuttings inserted in light soil in pots or pans under bell-glass in temp. 75° in spring.

Beta (Beet-root, Sicilian-beet, Spinach-beet, Sugar-beet, Mangel-beet).—*Ord.* Chenopodiaceæ. Esculent vegetables & orn. foliage plants. *Nat.* Portugal, S. Europe. *Int.* 1548. *Species* cultivated, 2; varieties numerous. *Leaves*, crimson, white. *Culture of Beet-root*: Sow seeds $1\frac{1}{2}$ in. deep in drills 15 in. apart in May. Thin seedlings in June to 8 in. apart in row. Sandy soil manured for previous crop best. Beet must not succeed spinach or root crops; may follow cabbage tribe, potatoes, onions, beans or peas. Lift roots in Nov. & store in cool shed. Suitable artificial manure for beet: Common salt, 3 lbs.; nitrate of soda, $1\frac{1}{2}$ lbs.; superphosphate, $1\frac{1}{2}$ lbs.; salt-petre, 1 lb. *Culture of Spinach-beet*: Sow seeds $1\frac{1}{2}$ in. deep in rows 18 in. apart in Ap. Thin seedlings in May to 9 in. apart in row. Use leaves of this only similar to spinach. Soil & manure as for beet-root. *Culture of Ornamental Beet*: Sow seeds $\frac{1}{4}$ in. deep in boxes of light soil in temp. 60° to 70° in Mar.; transfer seedlings to cold frame in Ap. & plant in beds in May.

Betel-nut Palm (*Areca catechu*)—see *Areca*.

Beth-wort (*Trillium erectum*)—see *Trillium*.

Betony (*Stachys betonica*)—see *Stachys*.

Betony-leaved Dragon's Head (*Dracocephalum grandiflorum*)—see *Dracocephalum*.

Betula (Bedewen, Birch-tree, Mountain Mahogany).—*Ord.* Cupulifere. Hardy ornamental trees & shrubs. Deciduous. *Nat.* Britain, Siberia, Canada, Carolina, N. America, Russia, Sweden, Lapland, India. *Int.* (foreign species) 1736. *Ht.* 2 to 60 ft. *Species* cultivated, 10; varieties numerous. *Flowers*, white; Ap. to June. *Soil*, ordinary. *Position*, sheltered or exposed in valleys, hills or mountain slopes; good seaside & town trees. *Plant*, Oct. to Mar. *Propagate* by seeds sown on the surface of sandy soil on sheltered borders in Mar.; seeds to be simply pressed in, not covered. Transplant seedlings when one year old. Dwarf birches propagated by layering shoots in Oct.

Bhotan Cypress (*Cupressus torulosa*)—see *Cupressus*.

Bhotan Pine Tree (*Pinus excelsa*)—see *Pinus*.

Bidens (Bur Marigold, Black Dahlia, Beggar-ticks, Water Agrimony, Water Hemp).—*Ord.* Compositæ. Hardy annual & perennial herbs. *Nat.* Britain, Mexico. *Int.* (foreign species) 1793. *Ht.* 2 to 8 ft. *Species* cultivated, 4. *Flowers*, crimson, yellow, white; July to Oct. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. or Ap. *Propagate* perennials by division of old plants in Ap.; annuals by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 70° in Mar., transplanting seedlings outdoors in May.

Biennial Wormwood (*Artemisia biennis*)—see *Artemisia*.

Bigarreau Cherry (*Cerasus duracina* var. *cordigera*)—see *Cerasus*.

Big Daisy (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Bignonia (Cross Vine, Trumpet-flower).—*Ord.* Bignoniaceæ. Greenhouse & hardy climbing plants. Deciduous. *Nat.* Brazil, Caraccas, N. America, Columbia, Uruguay, Buenos Ayres. *Int.* 1710. *Ht.* 10 to 40 ft. *Species* cultivated, 8. *Flowers*, yellow, orange, pink, crimson, white; Ap. to Dec. *Compost*, two parts loam, one part peat & silver sand. *Pot.*, Feb. or Mar. *Position*, light sunny for greenhouse species; south wall for hardy kind. Bed or border must not be more than 3 ft. square for one plant & 18 in. deep. Provide good drainage & make soil firm. *Prune* away one-third of strong shoots & two-thirds of weak shoots in Feb. *Water* freely Ap. to Sept., very little at other times. *Shade* must not be given to greenhouse kinds. *Propagate* by cuttings of young shoots 3 in. long, inserted in well drained pots of sandy soil in temp. 65° to 70° in Ap.

Billbergia.—*Ord.* Bromeliaceæ. Stove flowering plants. Evergreen. *Nat.* Trop. America, Brazil. *Int.* 1826. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, red, blue, yellow, scarlet; Feb. to May. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Pot.*, Mar. *Water* freely always. Good drainage essential. *Temp.*, Sept. to Mar. 65° to 75° ; Mar. to Sept. 70°

to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy peat in temp. 85° in Ap. •

Bilberry (*Vaccinium myrtillus*)—see *Vaccinium*.

Bilsted (*Liquidambar styracifolia*)—see *Liquidambar*.

Bindwith (*Olemais vitalba*)—see *Clematis*.

Bindwood (*Hedera helix*)—see *Hedera*.

Birch (*Betula alba*)—see *Betula*.

Birch-bark Oil Plant (*Betula alba*)—see *Betula*.

Birch-leaved Elm (*Ulmus campestris* var. *betulaefolia*)—see *Ulmus*.

Birch-leaved Mallow (*Malva scoparia*)—see *Malva*.

Bird Briar (*Rosa canina*)—see *Rosa*.

Bird Cherry (*Prunus padus*)—see *Prunus*.

Bird Cherry-leaved Whortle-berry (*Vaccinium padifolium*)—see *Vaccinium*.

Bird Grass (*Poa trivialis*)—see *Poa*.

Bird Thistle (*Carduus lanceolatus*)—see *Carduus*.

Bird's Eye Maple (*Acer saccharinum*)—see *Acer*.

Bird's Eye Primrose (*Primula farinosa*)—see *Primula*.

Bird's Eyes (*Veronica chamædrys*)—see *Veronica*.

Bird's-foot Clover (*Lotus corniculatus*)—see *Lotus*.

Bird's-foot Rock-Brake Fern (*Pellaea ornithopus*)—see *Pellaea*.

Bird's-foot Stonecrop (*Sedum pulchellum*)—see *Sedum*.

Bird's-foot Trefoil (*Lotus corniculatus*)—see *Lotus*.

Bird's-foot Violet (*Viola pedata*)—see *Viola*.

Bird's-nest Fern (*Asplenium nidus*)—see *Asplenium*.

Bird's-nest Myrtle (*Myrtus communis*)—see *Myrtus*.

Bird's-nest Orchis (*Neottia nidus-avis*)—see *Neottia*.

Bird's Tongue (*Senecio paludosus*)—see *Senecio*.

Birth-wort (*Aristolochia sipho*)—see *Aristolochia*.

Bishop's Hat (*Epimedium alpinum*)—see *Epimedium*.

Bishop's Leaves (*Scrophularia aquatica*)—see *Scrophularia*.

Bishop's-wort (*Stachys Betonica*)—see *Stachys*.

Biting Clematis (*Clematis vitalba*)—see *Clematis*.

Biting Dragon—old name for Tarragon.

Bitter Almond Tree (*Amygdalus communis* var. *amara*)—see *Amygdalus*.

Bitter Apple (*Cucumis colocynthus*)—see *Cucumis*.

Bitter Cress (*Cardamine pratensis*)—see *Cardamine*.

Bitter Orange Tree (*Citrus aurantium* var. *amara*)—see *Citrus*.

Bitter Root (*Lewisia rediviva*)—see *Lewisia*.

Bittersweet (*Solanum dulcamara* & *Spiræa ulmaria*)—see *Solanum* & *Spiræa*.

Bitter-wort (*Gentiana acaulis*)—see *Gentiana*.

Bitter Vetch (*Orobuchus vernus*)—see *Orobuchus*.

Bivona's Meadow Saffron (*Colchicum Bivonæ*)—see *Colchicum*.

Bixia (Arnatto)—Ord. Bixinez. Stove flowering tree. Evergreen. Nat. W. Indies. Int. 1630. Ht. 10 to 30 ft. Species cultivated, 1. Flowers, pale rose; May to Aug. Compost, two parts loam, one part peat & silver sand. Pot. Mar. Water freely Mar. to Sept., moderately other times. Temp., Sept. to Mar. 60° to 70°; Mar. to Sept. 75° to 85°. *Propagate* by cuttings of shoots six to twelve months old, inserted in small pots of sandy soil in temp. 85°, June to Aug.

Black American Raspberry (*Rubus occidentalis*)—see *Rubus*.

Black-berried Holly (*Ilex aquilifolium fructu nigro*)—see *Ilex*.

- Black-berried Honeysuckle** (*Lonicera nigra*)—see *Lonicera*.
Blackberry (*Rubus fruticosus*)—see *Rubus*.
Black Birch (*Betula lenata*)—see *Betula*.
Black-cap (*Typha latifolia*)—see *Typha*.
Black Centaury (*Centaurea nigra*)—see *Centaurea*.
Black Choke Cherry (*Cerasus hyemalis*)—see *Cerasus*.
Black Cinnamon-tree (*Pimenta acris*)—see *Pimenta*.
Black Cypress (*Taxodium distichum*)—see *Taxodium*.
Black Dahlia (*Biden's atrosanguinea*)—see *Biden's*.
Black Dogwood (*Prunus padus*)—see *Prunus*.
Black-eyed Heron's Bill (*Erodium macradenum*)—see *Erodium*.
Black Fig-tree (*Ficus laurifolia*)—see *Ficus*.
Black-fruited Cherry (*Cerasus nigra*)—see *Cerasus*.
Black-fruited Mulberry-tree (*Morus nigra*)—see *Morus*.
Black-fruited Thorn (*Crataegus nigra*)—see *Crataegus*.
Black Garlic (*Allium nigrum*)—see *Allium*.
Black Grass (*Bromus sterilis*)—see *Bromus*.
Black-heads (*Typha latifolia*)—see *Typha*.
Black Heart (*Vaccinium myrtilus*)—see *Vaccinium*.
Black Heath (*Erica cinerea*)—see *Erica*.
Black Hellebore (*Helleborus niger*)—see *Helleborus*.
Blackening Plant (*Hibiscus rosa-sinensis*)—see *Hibiscus*.
Black Irish Elm (*Ulmus montana* var. *nigra*)—see *Ulmus*.
Black Italian Poplar (*Populus Acladesca*)—see *Populus*.
Black Jack Fork-leaved Oak (*Quercus Catesbaei*)—see *Quercus*.
Black Jack Oak (*Quercus nigra*)—see *Quercus*.
Black Lily (*Lilium Cantschatcense*)—see *Lilium*.
Black Maidenhair Fern (*Adiantum capillus-veneris*)—see *Adiantum*.
Black Maidenhair Spleenwort (*Asplenium adiantum-nigrum*)—see *Adiantum*.
Black Martagon Lily (*Lilium dalmaticum*)—see *Lilium*.
Black Milfoil (*Achillea atrata*)—see *Achillea*.
Black Mint (*Mentha piperita vulgaris*)—see *Mentha*.
Black Mountain Ash (*Eucalyptus leucoxydon*)—see *Eucalyptus*.
Black Mountain Fir (*Abies cephalonica*)—see *Abies*.
Black New Zealand Pine-tree (*Podocarpus ferruginea* & *P. nicta*)—see *Podocarpus*.
Black Oak (*Quercus robur*)—see *Quercus*.
Black Pine-tree (*Pinus austriaca*)—see *Pinus*.
Black Poplar (*Populus nigra*)—see *Populus*.
Black-rooted Bitter Vetch (*Orobanchis niger*)—see *Orobanchis*.
Black-rooted Broom (*Genista nigricans*)—see *Genista*.
Black-rooted Laburnum-tree (*Cytisus nigricans*)—see *Cytisus*.
Black-rooted Mullein (*Verbascum nigrum*)—see *Verbascum*.
Black-rooted Pea (*Orobanchis niger*)—see *Orobanchis*.
Black-scrub Oak (*Quercus ilicifolia*)—see *Quercus*.
Black Sedge (*Carex atrata*)—see *Carex*.
Black Spleenwort (*Asplenium adiantum-nigrum*)—see *Asplenium*.
Black Spruce (*Abies nigra*)—see *Abies*.
Black Spruce Fir (*Abies nigra*)—see *Abies*.
Black Spruce of British Columbia (*Abies Menziesii*)—see *Abies*.
Black Sugar Maple (*Acer saccharinum* var. *nigrum*)—see *Acer*.

Black Tap (*Centaurea scabosa*)—see *Centaurea*.

Black Thorn (*Prunus spinosa*)—see *Prunus*.

Blackwort (*Symphytum officinale*)—see *Symphytum*.

Bladder Campion (*Silene inflata*)—see *Silene*.

Bladder Fern (*Cystopteris fragilis*)—see *Cystopteris*.

Bladder Herb (*Physalis Alkekengi*)—see *Physalis*.

Bladder Nut (*Staphylea pinnata*)—see *Staphylea*.

Bladder Sedge (*Carex vesicaria*)—see *Carex*.

Bladder Senna (*Colutea arborescens*)—see *Colutea*.

Bladder Wort (*Utricularia montana*)—see *Utricularia*.

Blæberry (*Vaccinium myrtillus*)—see *Vaccinium*.

Blandfordia.—*Ord.* Liliaceæ. Greenhouse bulbous plants. Flowering. Evergreen. Deciduous. *Nat.* N. S. Wales, Tasmania, Australia. *Int.* 1803. *Ht.* 1 to 2 ft. *Flowers*, golden, yellow, crimson, red; June to Sept. *Compost*, equal parts peat, loam, & silver or river sand. *Pot.* Oct. Good drainage, firm potting, & moderate size pots essential. *Water* freely May to Aug., moderately Aug. to Oct. & Feb. to May, none at other times. *Temp.*, Oct. to Feb. 40° to 50°; Feb. to Ap. 50° to 55°; Ap. to Oct. 55° to 65°. *Propagate* by offsets or division of old plants at potting time.

Blanket Beggar's Basket (*Verbascum Thapsus*)—see *Verbascum*.

Blanket Flower (*Gaillardia grandiflora*)—see *Gaillardia*.

Blanket Leaf (*Verbascum Thapsus*)—see *Verbascum*.

Blechnum (Brazilian Tree-fern, Snake Fern, Herring-bone Fern).—*Ord.* Filices. Stove & greenhouse ferns. Evergreen. *Nat.* Trop. America, China, India, Brazil, Peru, S. Africa. *Int.* 1691. *Ht.* 2 to 6 ft. *Species* cultivated, 9. *Compost*, equal parts loam, peat, leaf-mould & sand. *Pot.* Feb. or Mar. *Position*, shady. *Water* abundantly Ap. to Sept., moderately afterwards. *Temp.*, stove species, Sept. to Mar. 60° to 70°, Mar. to Sept. 70° to 80°; greenhouse, Sept. to Mar. 50° to 55°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on fine sandy peat in well drained pans, in temp. 80°, at any time.

Bleeding Heart (*Cheiranthus Cheiri*, *Colocasia esculenta*, & *Dielytra spectabilis*)—see *Cheiranthus*, *Colocasia*, & *Dielytra*.

Bleeding Nun (*Cyclamen europæum*)—see *Cyclamen*.

Bleeding Willow (*Orchis Morio*)—see *Orchis*.

Blessed Thistle (*Carduus benedictus*)—see *Carduus*.

Bletia.—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy orchids. Deciduous. *Nat.* China, Japan, W. Indies, Peru, Mexico. *Int.* 1733. *Ht.* 1 to 3 ft. *Species* cultivated, 5. *Flowers*, purple, rose; Sept. to Mar. *Compost*, equal parts loam & leaf-mould. *Pot.* Mar. *Position*, pots with 2 in. of drainage in each. *Water* freely Mar. to Aug., moderately Aug. to Oct., very little afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by division of pseudo-bulbs after flowering.

Blind Eyes (*Papaver rhæas*)—see *Papaver*.

Blind Nettle (*Lamium album*)—see *Lamium*.

Blite (*Chenopodium Bonus-Henricus*)—see *Chenopodium*.

Blood Berry (*Rivina humilis*)—see *Rivina*.

Blood Elder (*Sambucus ebulus*)—see *Sambucus*.

Blood Flower (*Hæmanthus coccineus*)—see *Hæmanthus*.

Blood or Maltese Orange-tree (*Citrus aurantium* var. *melitensis*)—see *Citrus*.

Blood-red-flowered Geranium (*Geranium sanguineum*)—see *Geranium*.

Blood-red Gladiolus (*Gladiolus cruentus*)—see *Gladiolus*.

Blood-red Pitcher-plant (*Nepenthes sanguinea*)—see *Nepenthes*.

Blood-red Stonecrop (*Sedum cruentum*)—see *Sedum*.

- Blood Root** (*Potentilla tormentilla* & *Sanguinaria canadensis*)—see *Potentilla* & *Sanguinaria*.
Blood Tree (*Croton gossypifolium*)—see *Croton*.
Blood Vine (*Epilobium angustifolium*)—see *Epilobium*.
Bloody Finger (*Digitalis purpurea*)—see *Digitalis*.
Bloody Man's Finger (*Orchis mascula* & *Arum maculatum*)—see *Orchis* & *Arum*.
Bloody Warrior (*Cheiranthus Cheiri*)—see *Cheiranthus*.
Blooming Sally (*Epilobium angustifolium* & *E. hirsutum*)—see *Epilobium*.
Blue African Lily (*Agapanthus umbellatus*)—see *Agapanthus*.
Blue Alpine Daisy (*Aster alpinus*)—see *Aster*.
Blue Ash (*Fraxinus quadrangulata*)—see *Fraxinus*.
Blue Ball (*Scabiosa succisa*)—see *Scabiosa*.
Blue Beech (*Carpinus americana*)—see *Carpinus*.
Blue Bell (*Scilla nutans* & *Campanula rotundifolia*)—see *Scilla* & *Campanula*.
Blue-berried Dogwood (*Cornus sericea*)—see *Cornus*.
Blue-berried Honeysuckle (*Lonicera caerulea*)—see *Lonicera*.
Blue Bitter Vetch (*Orobis cyaneus*)—see *Orobis*.
Blue Bonnets (*Centaurea cyanus* & *Scabiosa succisa*)—see *Centaurea* & *Scabiosa*.
Blue Bottle (*Centaurea cyanus* & *Scilla nutans*)—see *Centaurea* & *Scilla*.
Blue Bramble (*Rubus cæsius*)—see *Rubus*.
Blue Bush (*Ceanothus azureus*)—see *Ceanothus*.
Blue Buttons (*Scabiosa succisa*)—see *Scabiosa*.
Blue Chamomile (*Aster tripolium*)—see *Aster*.
Blue Cowslip (*Pulmonaria angustifolium*)—see *Pulmonaria*.
Blue Curls (*Iris dichotoma*)—see *Iris*.
Blue Daisy (*Aster tripolium*)—see *Aster*.
Blue Dandelion (*Lactuca sonchifolia*)—see *Lactuca*.
Blue-eyed Peacock Iris (*Iris pavonia*)—see *Iris*.
Blue eyes (*Veronica chamædrys*)—see *Veronica*.
Blue False Indigo-plant (*Baptisia australis*)—see *Baptisia*.
Blue-flowered Bindweed (*Ipomæa caerulea*)—see *Ipomæa*.
Blue-flowered Fleabane (*Erigeron acris*)—see *Erigeron*.
Blue-flowered Garlic (*Allium caeruleum*)—see *Allium*.
Blue-flowered Hydrangea (*Hydrangea hortensis* var. *caerulea* & *H. japonica* var. *caerulea*)—see *Hydrangea*.
Blue-flowered Lupin (*Lupinus insignis*)—see *Lupinus*.
Blue-flowered Mallow (*Malva limensis*)—see *Malva*.
Blue-flowered Red-root (*Ceanothus azureus*)—see *Ceanothus*.
Blue-flowered Virgin's Bower (*Clematis viorna*)—see *Clematis*.
Blue Gum-tree (*Eucalyptus globulus*)—see *Eucalyptus*.
Blue Himalayan Poppy (*Meconopsis aculeata*)—see *Meconopsis*.
Blue Indian Water Lily (*Nymphaea rubra*)—see *Nymphaea*.
Blue Innocence (*Houstonia caerulea*)—see *Houstonia*.
Blue John (*Taxus stricta*)—see *Taxus*.
Blue John Yew-tree (*Taxus stricta*)—see *Taxus*.
Blue & White Lobelia (*Lobelia ramosa* & *L. heterophylla major*)—see *Lobelia*.
Blue Magnolia (*Magnolia acuminata*)—see *Magnolia*.

- Blue Marguerite** (*Agathæa cælestis*)—see *Agathæa*.
Blue Mariposa Lily (*Oulochortus cæruleus*)—see *Calochortus*.
Blue Mountain Tea-plant (*Solidago odora*)—see *Solidago*.
Blue Passion-flower (*Passiflora cærulea*)—see *Passiflora*.
Blue Plaitain Lily (*Funkia cærulea*)—see *Funkia*.
Blue Rocket (*Aconitum pyramidale*)—see *Aconitum*.
Blue Rock Bindweed (*Convolvulus mauritanicus*)—see *Convolvulus*.
Blue Rock Cress (*Arabis deltoidea*)—see *Arabis*.
Blue Round-leaved Daisy (*Bellis rotundifolia* var. *cærulea*)—see *Bellis*.
Blue Scabious (*Scabious succisa*)—see *Scabious*.
Blue Seggin (*Iris foetidissima*)—see *Iris*.
Blue Spider-wort (*Commelina cælestis*)—see *Commelina*.
Blue Stars (*Veronica chamædrys*)—see *Veronica*.
Blue Tangles (*Vaccinium frondosum*)—see *Vaccinium*.
Blue Venus' Pride (*Houstonia cærulea*)—see *Houstonia*.
Blue Vervain (*Verbena hastata*)—see *Verbena*.
Blumenbachia.—Ord. Loasacæ. Hardy annual, biennial, & perennial plants. Climbing & trailing. *Nat.* Chili, Peru. *Int.* 1826. *Ht.* 1 to 6 ft. *Species* cultivated, 2. *Flowers*, white; June to Aug. *Soil*, ordinary. *Position*, south bed, border or wall. *Plant* perennials in Ap. *Propagate* annuals by seeds sown 4 in. deep in shallow boxes of light soil in temp. 65° Mar., transplanting seedlings outdoors in June; biennials by seeds sown similar way in Sept., keeping seedlings in greenhouse till May, then planting out; perennials by seed as advised for annuals, or division of roots in Ap.
Blunt-leaved Azalea (*Azalea obtusa*)—see *Azalea*.
Blunt-leaved Japan Cypress (*Retinospora obtusa*)—see *Retinospora*.
Blunt-leaved Rock Rose (*Cistus obtusifolius*)—see *Cistus*.
Blunt-leaved Stonecrop (*Sedum obtusatum*)—see *Sedum*.
Blunt-toothed Blanket-flower (*Gaillardia amblyodon*)—see *Gaillardia*.
Blushwort (*Erythraea diffusa*)—see *Erythraea*.
Blushing Bineweed (*Convolvulus erubescens*)—see *Convolvulus*.
Boar's Ears (*Primula auricula*)—see *Primula*.
Bobart's Orange Iris (*Bobartia aurantiaca*)—see *Bobartia*.
Bobartia (Bobart's Orange Iris).—Ord. Iridacæ. Hardy bulbous plant. *Nat.* Cape of Good Hope. *Int.* 1810. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, orange-yellow; June to Aug. *Soil*, sandy. *Position*, south bed or border well drained, or on rockery. *Plant* bulbs 3 in. deep & 3 in. apart in Oct. *Light* bulbs after flowering, dry & store away till planting time in cool place. *Propagate* by offsets planted & treated as large bulbs.
Bobbin Joan (*Arum maculatum*)—see *Arum*.
Bobbins (*Nymphaea alba* & *Nuphar lutea*)—see *Nymphaea* & *Nuphar*.
Bog Trefoil (*Menyanthes trifoliata*)—see *Menyanthes*.
Bog Violet (*Pinguicula vulgaris*)—see *Pinguicula*.
Bohea Tea-plant (*Thea Bohea*)—see *Thea*.
Bohemian Maple (*Acer Londoni*)—see *Acer*.
Bolander's Catch-fly (*Silene Bolanderi*)—see *Silene*.
Bolander's Groundsel (*Senecio Bolanderi*)—see *Senecio*.
Beliaun (*Senecio Jacobæa*)—see *Senecio*.
Belts (*Trollius europæus*)—see *Trollius*.
Bocconia (Tree Poppy, Tree Celadine).—Ord. Papaveracæ. Hardy herbaceous perennial. Orn. foliage. Flowering. *Nat.* China. *Int.* 1795. *Ht.* 4 to 9 ft. *Species* cultivated, 1. *Flowers*, scarlet & yellow; May to Aug. *Leaves*, finely cut, greyish. *Soil*, rich loamy, well manured. *Position*, open,

sunny, sheltered from cold winds. *Plant*, Ap. Cut down flower stems after blooming. *Propagate* by cuttings of young shoots growing out of axils of leaves, inserted in small pots of sandy soil, temp. 55° under bell-glass, June to Aug.; by suckers removed from root, placed in pots in cold frame in July. Good plant for pot culture in cool greenhouse or window. *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Mar. *Water* freely spring & sum., moderately other times.

Bog Arum (*Calla palustris*)—see *Calla*.

Bog Bean (*Menyanthes trifoliata*)—see *Menyanthes*.

Bog Berry (*Vaccinium oxycoccus*)—see *Vaccinium*.

Bog Bilberry (*Vaccinium uliginosum*)—see *Vaccinium*.

Bog Myrtle (*Myrica gale*)—see *Myrica*.

Bog Pimpernel (*Anagallis tenella*)—see *Anagallis*.

Boltonia (False Chamomile).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, pink; Aug. to Oct. *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. or Ap. *Propagate* by division of roots in Ap.

Bomarea.—*Ord.* Amaryllidaceæ. Greenhouse climbing perennials. *Flowering*. *Nat.* Bogota, Columbia, Peru, S. America. *Int.*, date unknown. *Ht.* 3 to 20 ft. *Species* cultivated, 4. *Flowers*, rose, vermilion; May to Oct. *Compost*, equal parts peat, leaf-mould, loam & sand. *Pot or plant*, Mar. *Position*, large pots, tubs or beds, well drained. *Water* freely Ap. to Sept., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of light sandy soil in temp. 65° in Mar.; division of roots in Mar.

Bona-Nox (*Ipomæa Bona-nox*)—see *Ipomæa*.

Bone-flower (*Bellis perennis*)—see *Bellis*.

Bone-set (*Symphytum officinale*)—see *Symphytum*.

Bongardia.—*Ord.* Berberidæ. Hardy tuberous-rooted perennial. *Flowering*. *Nat.* Persia, Syria. *Int.* 1740. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, golden yellow; Mar. to May. *Soil*, light sandy. *Position*, south bed or border, well drained. *Plant*, Oct. or Ap. *Protect* in severe weather by covering with handlight or thick layer of cinder ashes. *Propagate* by division of tubers Oct. or Ap., or by seeds sown in shallow boxes of light soil, temp. 55° to 65°, in Mar.

Bontry Tree (*Sambucus nigra*)—see *Sambucus*.

Boodle (*Chrysanthemum segetum*)—see *Chrysanthemum*.

Boon Tree (*Sambucus nigra*)—see *Sambucus*.

Borage (*Borago officinalis*)—see *Borago*.

Borago (Common Borage, Cool-tankard, Early-flowering Borage, Bell-flowered Borage).—*Ord.* Boraginaceæ. Hardy annual, biennial, & perennial plants. *Nat.* Britain, Corsica, Numidia. *Int.* (foreign species) 1813. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, blue, white; May to Sept. *Soil*, ordinary. *Position*, sunny rockeries, dry banks. *Sow* seeds of common borage annually in Mar. where required to grow, afterwards thinning seedlings to 8 in. apart. *Propagate* annuals & biennials by seed sown as above; perennials by division of roots in Ap.

Borecole (*Brassica oleracea acephala*)—see *Brassica*.

Boronia (Australian Native Rose).—*Ord.* Rutaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* W. Australia. *Int.* 1794. *Ht.* 1 to 4 ft. *Species* cultivated, 8. *Flowers*, red, rose, pink, carmine, purple; Feb. to Aug. *Compost*, two parts fibrous peat, one part silver sand & pounded charcoal. *Pot* directly after flowering. *Drain* the pots well & make compost quite firm. *Cut* off points of young shoots when 3 in. long to promote bushy growth. *Water* freely Ap. to Sept., moderately afterwards. *Place* plants in semi-shady position outdoors June to Aug. *Temp.*, Sept. to Mar. 45° to 50° Mar. to

Sept. 50° to 60°. *Propagate* by cuttings of firm young shoots inserted in sandy soil, in temp. 55°, June to Aug., under bell-glass.

Boss Fern (*Nephrodium molle*)—see *Nephrodium*.

Boston Iris (*Iris virginica*)—see *Iris*.

Botany Bay Tea (*Smilax glycyphylla*)—see *Smilax*.

Betrychium (Moon Fern, Moon Wort, Grape Fern, Rattlesnake Fern.)—*Ord.* Filices. Hardy ferns. Deciduous. *Nat.* Britain, N. America. *Int.* (foreign species) 1790. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Compost*, equal parts sandy loam & peat. *Position*, moist, shady. *Plant*, Ap. *Water* freely in dry weather during sum. *Propagate* by division of roots in Ap.

Bottle-flowered Crocus (*Crocus lagenaeformis*)—see *Crocus*.

Bottle Gourd (*Lagenaria vulgaris*)—see *Lagenaria*.

Bottle Sedge (*Carex ampullacea*)—see *Carex*.

Bougainvillea.—*Ord.* Nyctagineæ. Greenhouse climbing plants. Flowering. Deciduous. *Nat.* Brazil, S. America. *Int.* 1829. *Ht.* 10 to 30 ft. *Species* cultivated, 2. *Flowers* (bracts), rose, lilac; May to Nov. *Compost*, two-thirds turfy loam, one-third leaf-mould & sand. *Pot or plant*, Feb. *Position*: *B. glabra* in pots with shoots trained round wire trellis; *B. speciosa* in bed 3 ft. wide & 18 in. deep, branches & shoots being trained up roof. *Prune* shoots of previous year's growth to within 1 in. of base annually in Feb. *Water* abundantly Mar. to Sept., moderately Sept. to Nov., none afterwards. *Temp.*, Feb. to May 55° to 60°; May to Sept. 65° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by cuttings of young shoots 3 in. long, removed with small portion of branch attached, inserted in 2 in. pots of sandy soil, under bell-glass in temp. 70° to 80°, Mar., Ap. or May.

Bouncing Bet (*Saponaria officinalis*)—see *Saponaria*.

Bourbon or Faham Tea-plant (*Angræcum fragrans*)—see *Angræcum*.

Bourbon Lily (*Lilium candidum*)—see *Lilium*.

Bourbon Palm (*Latania Borbonica*)—see *Latania*.

Boursault Rose (*Rosa alpina*)—see *Rosa*.

Boussingaultia (Madeira Vine).—*Ord.* Chenopodiaceæ. Half-hardy tuberous-rooted climber. *Nat.* S. America. *Int.* 1835. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; Sept. to Nov. *Soil*, light sandy. *Position*, back wall of greenhouse, or south wall or fence outdoors during sum. *Plant* tubers in small pots in temp. 55° in Mar. for transplanting outdoors in June, or in bed in Feb. for greenhouse culture. *Lift* outdoor tubers in Oct. & store in sand during winter; those in greenhouse bed leave undisturbed. *Water* freely in sum., none in winter. *Propagate* by inserting tubercles removed from the stems in sandy soil in temp. 55° in spring or autumn.

Bouvardia.—*Ord.* Rubiaceæ. Greenhouse flowering plants. Evergreen. *Nat.* S. America, Mexico. *Int.* 1794. *Ht.* 1 to 3 ft. *Species* cultivated, 7; varieties numerous. *Flowers*, scarlet, white, red, rose, yellow, fragrant; Sept. to Mar. *Compost*, equal parts fibrous loam, leaf-mould, peat & silver sand. *Pot*, Mar. *Prune*, Feb., shortening shoots of previous year's growth to within 1 in. of their base. *Water* moderately Feb. to May & Aug. to Nov., freely May to Aug., little Nov. to Feb. *Temp.*, Feb. to Sept. 55° to 75°; Sept. to Feb. 55° to 60°. *Place* plants in cold frame from June to Sept. *Propagate* by cuttings of young shoots 2 in. long, inserted in pots of sandy compost in Mar. in temp. 65°.

Bowman's Root (*Gillenia trifoliata*)—see *Gillenia*.

Bow-string Hemp of Africa (*Sansevieria guineensis*)—see *Sansevieria*.

Bow-string Hemp of India (*Sansevieria zeylanica*)—see *Sansevieria*.

Box Berry (*Gaultheria procumbens*)—see *Gaultheria*.

Box Elder (*Negundo aceroides*)—see *Negundo*.

Box Holly (*Ruscus aculeatus*)—see *Ruscus*.

Box-leaved Andromeda (*Andromeda buxifolia*)—see Andromeda.

Box-leaved Barberry (*Berberis fascicularis*)—see Berberis.

Box-leaved Buckthorn (*Rhamnus fraxifolia*)—see Rhamnus.

Box-leaved Myrtle (*Myrtus communis* var. *tarentina*)—see Myrtus.

Box-leaved Orange-tree (*Citrus buxifolia*)—see Citrus.

Box-leaved Privet (*Ligustrum vulgare* var. *buxifolium*)—see Ligustrum.

Box-leaved Red-root (*Ceanothus buxifolius*)—see Ceanothus.

Boy Love (*Artemisia abrotanum*)—see Artemisia.

Box Thorn (*Lycium barbarum*)—see Lycium.

Brachycome (Swan River Daisy).—*Ord.* Compositæ. Half-hardy annual. Flowering. *Nat.* W. Australia. *Int.* 1843. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, blue, white; June to Sept. *Soil*, ordinary. *Position*, sunny bed or border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shallow boxes of light soil in temp. 55° in Mar., transplanting seedlings outdoors in May; or outdoors in Ap. where plants are to flower.

Brachysema.—*Ord.* Leguminosæ. Greenhouse climbing plants. Flowering. Evergreen. *Nat.* New Holland, N. S. Wales. *Int.* 1805. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, scarlet, violet; Mar. to June. *Compost*, equal parts loam, peat, leaf-mould & silver sand. *Pot.* Feb. *Position*, well drained pots or tubs, or beds 3 ft. wide & 18 in. deep; shoots to be trained round wire trellis or up the roof & fully exposed to sun. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 55° in Mar.; cuttings of shoots inserted in similar soil & temp. under bell-glass in June, July or Aug.; layering shoots in Sept.

Bracken (*Pteris aquilina*)—see Pteris.

Bracted Everlasting (*Helichrysum bracteatum*)—see Helichrysum.

Brahea.—*Ord.* Palmacæ. Greenhouse palm. Orn. foliage. *Nat.* Mexico. *Int.* 1665. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Compost*, equal parts, peat, loam & sand. *Pot.* Feb. *Water* freely in sum., moderately other times. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 85° in Mar.

Brake Fern (*Pteris aquilina*)—see Pteris.

Brake-root (*Polypodium vulgare*)—see Polypodium.

Bramble (*Rubus fruticosus*)—see Rubus.

Bramble-leaved Rose (*Rosa rubifolia*)—see Rosa.

Bramble Rose (*Rosa polyantha*)—see Rosa.

Branching Andromeda (*Andromeda racemosa*)—see Andromeda.

Branching Asphodel (*Asphodelus ramosus*)—see Asphodelus.

Branching Bellflower (*Campanula divaricata*)—see Campanula.

Branching Gladiolus (*Gladiolus ramosus*)—see Gladiolus.

Branching Larkspur (*Delphinium consolida*)—see Delphinium.

Branching Lobelia (*Lobelia ramosa*)—see Lobelia.

Branching Maidenhair Fern (*Adiantum formosum*)—see Adiantum.

Branching Starwort (*Aster ramosa*)—see Aster.

Branching Wormwood (*Artemisia ramosa*)—see Artemisia.

Branched Broom-rape (*Orobancha ramosa*)—see Orobancha.

Branched Spiderwort (*Anthericum lilago*)—see Anthericum.

Brandy Bottle (*Nuphar lutea*)—see Nuphar.

Brandy Mint (*Mentha piperita*)—see Mentha.

Brassavola.—*Ord.* Orchidacæ. Greenhouse orchids. *Nat.* Central & S. America, Honduras, Mexico. *Int.* 1837. *Ht.* 4 to 12 in. *Species* cultivated, 5. *Flowers*, creamy-white, rose, orange, fragrant; Sept. to Mar.

Compost, sphagnum moss. *Position*, blocks of wood, suspended from roof. *Water* abundantly Mar. to Sept., moderately other times. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plant at potting time.

Brassia.—*Ord.* Orchidaceæ. *Stove orchids.* Evergreen. *Nat.* N. Grenada, Costa Rica, Guatemala, New Guinea, Brazil, Jamaica. *Int.* 1806. *Ht.* 9 to 12 in. *Species* cultivated, 8. *Flowers*, yellow, brown, purple; Mar. to Sept. *Compost*, rough fibrous peat & charcoal. *Pot*, Feb. *Position*, well drained pots. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Oct. to Feb. 50° to 60°; Feb. to Oct. 65° to 85°. *Propagate* by division of plants at potting time.

Brassica (Borecole, Broccoli, Brussels Sprouts, Kale, Cabbage, Colewort, Cauliflower, Savoy, Kohl-Rabi, Turnip).—*Ord.* Cruciferæ. Hardy biennial vegetables. *Nat.* England. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, yellow; May to Aug. *Borecole*: Sow seeds $\frac{1}{2}$ in. deep in drills 6 in. apart in Mar. or Ap.; transplant seedlings 6 in. apart each way in May in open position; plant out permanently 18 in. apart in rows 2 ft. asunder in June or July. *Broccoli*: For autn. use sow seeds $\frac{1}{2}$ in. deep in shallow boxes of light soil in temp. 65° in Feb., or in cold frame in Ap.; transplant seedlings 3 in. apart in cold frame, light soil, in Ap. or May; plant out 2 ft. apart in rows 2 ft. asunder in June. For winter use sow seeds $\frac{1}{2}$ in. deep in drills 6 in. apart in open garden in Ap.; transplant seedlings 6 in. apart each way in June; plant permanently 2 ft. apart all ways in July. For spring use sow seeds end of Ap. as for winter kinds; plant out in July. For sum. use sow seeds end of May; plant out in Aug. *Brussels Sprouts*: Sow seeds $\frac{1}{2}$ in. deep in boxes of light soil in temp. 65° in Mar., or $\frac{1}{2}$ in. deep in drills 6 in. apart outdoors in Mar.; transplant seedlings 6 in. apart in open position in May; plant in permanent quarters 2 ft. apart all ways in June & July. *Cabbage*: For sum. use sow seeds $\frac{1}{2}$ in. deep in boxes of light soil in temp. 65° in Feb.; transplant seedlings 3 in. apart in boxes of light soil & put in cold frame for few weeks; plant out 12 in. apart in rows 18 in. asunder in Ap. For autn. use sow seeds $\frac{1}{2}$ in. deep in drills 6 in. apart in open position in Mar.; transplant seedlings 6 in. apart in May; plant out 12 in. apart in rows 18 in. asunder in June. For spring use sow seeds $\frac{1}{2}$ in. deep in open garden middle of July; transplant seedlings 6 in. apart in Aug.; plant out 12 in. apart in rows 18 in. asunder in Sept. *Colewort*: Sow & treat as advised for spring cabbage; plant 12 in. apart each way. *Cauliflower*: For sum. use sow seeds as advised for early cabbage. For autn. use sow seeds $\frac{1}{2}$ in. deep in drills 6 in. apart in Ap.; transplant seedlings 6 in. apart in May, & plant out 18 in. apart in rows 2 ft. asunder in June. For spring use sow, as in last case, outdoors in Aug.; transplant seedlings in cold frame for the winter & plant out in Ap. *Kale*: See Borecole. *Kohl-Rabi*: Sow seeds thinly outdoors in Mar.; thin seedlings to 3 in. apart in May; plant out 2 ft. apart in rows 3 ft. asunder in June. *Savoy*: Treat as advised for cabbage intended for autn. use. *Turnip*: Sow seeds $\frac{1}{2}$ in. deep in drills 18 in. apart in Feb., Mar., May, June & July. Thin seedlings when three leaves are formed to 8 in. apart. *Water* freely in dry weather. *Lift* & store roots in Nov. *Soil* for all the foregoing, rich, liberally manured & deeply dug previous to sowing or planting. *Artificial manure* for cabbage tribe: Salt, 3 lbs.; nitrate of soda, 1½ lbs.; superphosphate, 1½ lbs.; saltpetre, 1 lb., per square rod. *Rotation*: All the foregoing may follow potatoes, onions, beans, peas, lettuce or spinach; may be succeeded by carrots, beet, onions or peas.

Bravoa (Scarlet Twin-flower).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plant. *Deciduous.* *Nat.* Mexico. *Int.* 1841. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, orange, scarlet; May to July. *Soil*, light sandy. *Position*, pots in cool greenhouse or well drained sunny border. *Greenhouse culture*: Put four bulbs in a 5 in. pot, well drained, in Oct. Cover with ashes in cold frame until Jan., then remove to greenhouse. *Water* moderately until

foliage turns yellow, then keep soil dry. *Outdoor culture*: Plant bulbs 4 in. deep & 6 in. apart in Oct. Cover soil with cinder ashes during winter. *Propagate* by offsets treated as advised for bulbs.

- Brazilian Pine-tree** (*Araucaria braziliensis*)—see *Araucaria*.
Bread & Milk (*Cardamine pratensis*)—see *Cardamine*.
Bread-fruit Tree (*Artocarpus incisa*)—see *Artocarpus*.
Break-bones (*Stellaria Holostea*)—see *Stellaria*.
Breeches Flower (*Dielytra cucullaria*)—see *Dielytra*.
Brenchley Gladiol (*Gladiolus brenchleyensis*)—see *Gladiolus*.
Briar Rose (*Rosa canina*)—see *Rosa*.
Bridal Everlasting (*Gnaphalium Leontopodium*)—see *Gnaphalium*.
Bride's Lace (*Phalaris arundinacea*)—see *Phalaris*.
Bridewort (*Spiraea ulmaria*)—see *Spiraea*.
Bright-Flowered Azalea (*Azalea arvensis*)—see *Azalea*.
Bright Meadow (*Caltha palustris*)—see *Caltha*.
Brilliant Bird's-eye Primrose (*Primula farinosa* var. *superba*)—see *Primula*.
Brilliant Cinquefoil (*Potentilla splendens*)—see *Potentilla*.
Brilliant Lobelia (*Lobelia fulgens*)—see *Lobelia*.
Brilliant Lychnis (*Lychnis fulgens*)—see *Lychnis*.
Brilliant Mariposa Lily (*Calochortus splendens*)—see *Calochortus*.
Brilliant Stonecrop (*Sedum spectabile*)—see *Sedum*.
Brilliant Tulip (*Tulipa fulgens*)—see *Tulipa*.
Brisbane Lily (*Euryclis australasica*)—see *Euryclis*.
Bristle Fern (*Trichomanes radicans*)—see *Trichomanes*.
Bristle-pointed Iris (*Iris setosa*)—see *Iris*.
Bristly blanket-flower (*Gaillardia aristata*)—see *Gaillardia*.
Bristly Gooseberry (*Ribes cereum*)—see *Ribes*.
Bristly Rest-harrow (*Ononis hispidula*)—see *Ononis*.
Bristly Sarsaparilla-plant (*Aralia hispida*)—see *Aralia*.
Bristly Sun-rose (*Helianthemum hispidum*)—see *Helianthemum*.
Bristol Rock-creep (*Arabis stricta*)—see *Arabis*.
Brittle Bladder Fern (*Cystopteris fragilis*)—see *Cystopteris*.
Briza (Quaking Grass)—*Ord.* Gramineae. Hardy ornamental flowering grasses. *Nat.* Britain, S. Europe, Brazil. *Int.* (foreign species) 1633. *Ht.* 8 to 18 in. *Species* cultivated, 4. *Flowers*, sum. *Soil*, ordinary. *Position*, sunny beds, borders or banks. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap. where plants are required to flower. Flowers should be cut & dried for winter decoration when fully developed.
Broad-leaved Arbor-vitæ (*Thuopsis gigantea*)—see *Thuopsis*.
Broad-leaved Bell-flower (*Campanula latifolia*)—see *Campanula*.
Broad-leaved Birthwort (*Aristolochia siphon*)—see *Aristolochia*.
Broad-leaved Buckthorn (*Rhamnus latifolia*)—see *Rhamnus*.
Broad-leaved Butcher's Broom (*Ruscus hypophyllum* var. *latifolius*)—see *Ruscus*.
Broad-leaved Common Elm (*Ulmus campestris* var. *latifolia*)—see *Ulmus*.
Broad-leaved Cow-parsnip (*Heracleum latifolium*)—see *Heracleum*.
Broad-leaved Cuckoo-flower (*Cardamine latifolia*)—see *Cardamine*.
Broad-leaved Ginger (*Zingiber zerumbet*)—see *Zingiber*.
Broad-leaved Groundsel (*Senecio jacobinicus*)—see *Senecio*.
Broad-leaved Holly (*Ilex latifolia*)—see *Ilex*.
Broad-leaved Mock Orange (*Philadelphus latifolius*)—see *Philadelphus*.

Broad-leaved Myrtle (*Myrtus communis* var. *belgica*)—see *Myrtus*.
Broad-leaved Pond-weed (*Potamogeton natans*)—see *Potamogeton*.
Broad-leaved Rock-rose (*Cistus latifolius*)—see *Cistus*.
Broad-leaved Satin-flower (*Sisyrinchium latifolium*)—see *Sisyrinchium*.

Broad-leaved Spindle-tree (*Euonymus latifolius*)—see *Euonymus*.
Broad-leaved Whortle-berry (*Vaccinium amœnum*)—see *Vaccinium*.

Broad Prickly-toothed Fern (*Lastræa dilatata*)—see *Lastræa*.

Broad-spinned Holly (*Ilex latispina*)—see *Ilex*.

Broad Windsor Bean (*Faba vulgaris* var. *macrocarpa*)—see *Faba*.

Broccoli (*Brassica oleracea* var. *Botrytis asparagoides*)—see *Brassica*.

Brodie's Lily (*Brodiaea coccinea*)—see *Brodiaea*.

Brodiaea (Crimson Satin-flower, Vegetable Fire-cracker, Brodie's Lily, Californian Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous plants. Deciduous. *Nat.* California, N. America. *Int.* 1806. *Ht.* 3 to 24 in. *Species* cultivated, 8. *Flowers*, blue, yellow, purple & white; June to Aug. *Soil*, rich sandy loam. *Position*, warm well drained border. *Plant* bulbs Sept. & Oct., 4 in. deep & 3 in. apart. *Lift* & replant bulbs annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame in Mar.; by offsets treated as advised for bulbs.

Bromus (Black Grass, Brome Grass).—*Ord.* Gramineæ. Hardy ornamental flowering grasses. Biennial. *Nat.*, unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, sum. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Sept. or Ap. where plants are required to grow. *Flowers* useful for drying for winter decoction; cut them when fully developed.

Broom Pine-tree (*Pinus australis*)—see *Pinus*.

Broughtonia.—*Ord.* Orchidaceæ. Stove orchid. Evergreen. *Nat.* Jamaica. *Int.* 1783. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, crimson; June to Aug. *Compost*, sphagnum moss. *Position*, blocks of wood. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Oct. to Feb. 50° to 60°; Feb. to Oct. 65° to 85°. *Propagate* by division of plant at potting time.

Browallia.—*Ord.* Scrophulariæ. Greenhouse annuals. Flowering. *Nat.* Peru, Rocky Mountains, Panama. *Int.* 1735. *Ht.* 6 in. to 3 ft. *Species* cultivated, 5. *Flowers*, blue, orange; June to Aug. *Compost*, equal parts loam & leaf-mould, with little sand. *Sow* seeds $\frac{1}{4}$ in. deep in fine light soil in Mar. in temp. 55° to 65°. When seedlings appear transplant three or four into each 6 in. pot, keep on a shelf in greenhouse, & water moderately. Apply weak manure water in May & June. Will flower in cool greenhouse. *Temp.*, Mar. to June 55° to 65°. Seedlings may be planted outdoors in June to flower during sum.

Brown-berried Juniper (*Juniperus oxycedrus*)—see *Juniperus*.

Brown-branched Ash (*Fraxinus americana fusca*)—see *Fraxinus*.

Brown Bugle (*Ajuga reptans*)—see *Ajuga*.

Brown Indian Hemp (*Hibiscus cannabinus*)—see *Hibiscus*.

Brown-stalked Magnolia (*Magnolia fuscata*)—see *Magnolia*.

Brown's Rose (*Rosa Brunoni*)—see *Rosa*.

Brown's Stonecrop (*Sedum Browni*)—see *Sedum*.

Broussonetia (Paper Mulberry).—*Ord.* Urticaceæ. Hardy deciduous tree. Orn. foliage. *Nat.* China. *Int.* 1751. *Ht.* 10 ft. *Species* cultivated, 1. *Leaves*, large, lobed, mulberry-shaped. *Soil*, rich loamy. *Position*, sheltered. *Plant*, Oct. to Mar. *Propagate* by cuttings inserted in sandy soil in cold frame in Oct., or suckers in Oct. or Nov.

Brownea (West Indian Mountain Rose).—*Ord.* Leguminosæ. Stove flowering shrubs. Evergreen. *Nat.* Caraccas, Venezuela, Central America.

Int. 1820. *Ht.* 4 to 20 ft. *Species* cultivated, 5. *Flowers*, scarlet, red; *Ap.* to Aug. *Compost*, equal parts peat & loam, little sand. *Pot.* Feb. or Mar. *Water* moderately in sum., occasionally at other times. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. (5° to 85°. *Propagate* by cuttings of firm shoots inserted in sandy peat, in temp. 80° under bell-glass, in spring.

Brunsvigia (*Candelabra-flower*).—*Ord.* *Amayllidaceæ*. Greenhouse bulbous plants. *Deciduous*. *Nat.* Cape of Good Hope. *Int.* 1751. *Ht.* 9 to 18 in. *Species* cultivated, 3. *Flowers*, red, scarlet; May to Aug. *Compost*, equal parts peat, loam & sand. *Pot.* Sept. *Water* on y when new growth begins, then give moderate quantity; cease to give any after leaves turn yellow. *Temp.*, Sept. to Nov. 50° to 55°; Nov. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. Plants must have full exposure to sun. *Propagate* by offsets inserted in small pots & grown similar to large bulbs.

Brussele Sprouts (*Brassica oleracea bullata gemnifera*)—see *Brassica*.

Bryanthus.—*Ord.* *Ericacæ*. Hardy trailing shrub. Evergreen. *Nat.* Siberia. *Int.*, date unknown. *Ht.* 8 to 12 in. *Flowers*, red; spring. *Species* cultivated, 1. *Soil*, sandy peat. *Position*, moist rockery. *Plant*, Oct. or *Ap.* *Propagate* by division of plants in *Ap.*, or layering in Oct.

Buchanan's Speedwell (*Veronica Buchananii*)—see *Veronica*.

Buck-eye (*Pavia rubra*)—see *Pavia*.

Buck Grass (*Lycopodium clavatum*)—see *Lycopodium*.

Buck Horn Brake (*Osmunda regalis*)—see *Osmunda*.

Buckler Fern (*Lastræa filix mas*)—see *Lastræa*.

Buckrams (*Allium urisum*)—see *Allium*.

Buckthorn (*Rhamnus catharticus*)—see *Rhamnus*.

Buddleia (Orange-ball-tree).—*Ord.* *Loganiacæ*. Hardy flowering shrub. Evergreen. *Nat.* Chili. *Int.* 1771. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, orange; May. *Soil*, light rich. *Position*, border against south or south-west wall. *Plant*, Oct. or *Ap.* *Prune* away dead or straggly shoots only. *Propagate* by seeds sown in light soil in a temp. of 60° in Mar.; by cuttings of firm shoots inserted in pots of sandy soil in cold frame in Sept.

Buffalo Currant (*Ribes aureum*)—see *Ribes*.

Buff-coloured Lily (*Lilium testaceum*)—see *Lilium*.

Buff-coloured Mallow (*Malva lateritia*)—see *Malva*.

Bugbane (*Actæa racemosa*)—see *Actæa*.

Bugle Lily (*Watsonia rosea*)—see *Watsonia*.

Bugloss Cowslip (*Pulmonaria officinalis*)—see *Pulmonaria*.

Bugloss (*Echium vulgare*)—see *Echium*.

Bulb-bearing Lily (*Lilium bulbiferum*)—see *Lilium*.

Bulb-bearing Tooth-wort (*Dentaria bulbifera*)—see *Dentaria*.

Bulbocodium (Meadow Saffron).—*Ord.* *Liliacæ*. Hardy bulbous plant. *Nat.* Spain. *Int.* 1649. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, violet-purple; Mar., before leaves. *Soil*, ordinary. *Position*, sunny or shady beds or borders. *Plant* bulbs 3 in. deep & 3 in. apart in Sept. *Lift & replant* bulbs every second year. *Propagate* by offsets obtained when lifting the bulbs.

Bulbous-rooted Crow-foot (*Ranunculus bulbosus*)—see *Ranunculus*.

Bulbous-rooted Ranunculus (*Ranunculus bulbosus*)—see *Ranunculus*.

Bulbous Violet—old name for the Snowdrop.

Bullace (*Prunus insititia*)—see *Prunus*.

Bull Daisy (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Bullet Grape (*Vitis vulpina*)—see *Vitis*.

Bull Grape (*Vitis rotundifolia*)—see *Vitis*.

Bullock's-eye (*Sempervivum tectorum*)—see *Sempervivum*.

Bullock's Lungwort (*Verbascum Thapsus*)—see *Verbascum*.

- Bull Pine-tree** (*Pinus ponderosa*)—see *Pinus*.
- Bullrush** (*Scirpus lacustris* & *Typha latifolia*)—see *Scirpus* & *Typha*.
- Bull's Head Orchid** (*Anguloa Clowesi*)—see *Anguloa*.
- Bullweed** (*Centaurea nigra*)—see *Centaurea*.
- Bul-rose** (*Narcissus pseudo-narcissus*)—see *Narcissus*.
- Bunch Berry** (*Cornus canadensis*)—see *Cornus*.
- Bunch Flower** (*Melanthium virginicum*)—see *Melanthium*.
- Bundle-flowered Andromeda** (*Andromeda fasciculata*)—see *Andromeda*.
- Bundle-flowered Barberry** (*Berberis corollina*)—see *Berberis*.
- Bunge's Campion** (*Lychnis Bungeana*)—see *Lychnis*.
- Bunya-Bunya Pine-tree** (*Araucaria Bidwelli*)—see *Araucaria*.
- Bupthalmum** (Yellow Ox-eye, Willow-leaved Ox eye)—*Ord. Compositae*. Hardy herbaceous perennials. *Nat.* Austria, S. Europe. *Int.* 1722. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow; June to Oct. *Soil*, ordinary. *Position*, open sunny border. *Plant*, Oct. or Mar. *Propagate* by division of old plants in Oct. or Mar.
- Bupleurum** (Shrubby Hare's ear).—*Ord. Umbelliferæ*. Hardy shrub. Evergreen. *Nat.* Spain. *Int.* 1596. *Ht.* 3 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; July. *Soil*, ordinary. *Position*, warm border. *Plant*, Oct. or Ap. *Propagate* by cuttings inserted in sandy peat in cold frame in Oct. or Mar.
- Burbidgea**.—*Ord. Scitamineæ*. Stove herbaceous plant. Flowering. *Nat.* Borneo. *Int.* 1879. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, orange-scarlet; June to Aug. *Compost*, equal parts peat, leaf-mould & loam. *Position*, large pots, tubs or beds. *Plant*, Mar. *Water* freely Mar. to Aug., moderately other times. *Propagate* by division of roots in Ap.
- Burchellia** (Bufflehorn-wood).—*Ord. Rubiacæ*. Stove flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.*, date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, scarlet; Ap. *Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Mar. *Water* freely Ap. to Sept., moderately other times. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 75° in Mar., Ap. or May.
- Burger's Columbine** (*Aquilegia Burgeriana*)—see *Aquilegia*.
- Burke's Tree** (*Cyathea Burkei*)—see *Cyathea*.
- Burk Tree** (*Betula alba*)—see *Betula*.
- Burlingtonia**.—*Ord. Orchidacæ*. Stove orchids. Evergreen. *Nat.* S. America, Demerara, Brazil. *Int.* 1834. *Ht.* 6 to 12 in. *Species* cultivated, 7. *Flowers*, white, rose, pink, fragrant; Ap. to Oct. *Compost*, sphagnum moss. *Position*, blocks of wood, suspended from roof. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plants at potting time.
- Bur Marigold** (*Bidens tripartita*)—see *Bidens*.
- Burnet** (*Sanguisorba officinalis*)—see *Sanguisorba*.
- Burnet Rose** (*Rosa spinosissima*)—see *Rosa*.
- Burnet Saxifrage** (*Pimpinella saxifraga*)—see *Pimpinella*.
- Burning Bush** (*Dictamnus fraxinella*)—see *Dictamnus*.
- Burn or Potato Onion** (*Allium cepa* var. *aggregatum*)—see *Allium*.
- Burnt-weed** (*Scolopendrium vulgare*)—see *Scolopendrium*.
- Bur Oak** (*Quercus macrocarpa*)—see *Quercus*.
- Burser's Gentian** (*Gentiana Burseri*)—see *Gentiana*.
- Burser's St. John's-wort** (*Hypericum Burseri*)—see *Hypericum*.
- Burser's Saxifrage** (*Saxifraga Burseriana*)—see *Saxifraga*.
- Bur Tree** (*Sambucus nigra*)—see *Sambucus*.

- Bush Arber-vitæ** (*Thuia dumosa*)—see *Thuia*.
Bush Basil (*Ocimum minimum*)—see *Ocimum*.
Bush Honeysuckle (*Weigela rosea*)—see *Weigela*.
Bush Pink (*Dianthus ramosissimus*)—see *Dianthus*.
Bushy Starwort (*Aster dumosus*)—see *Aster*.
Bushy Whortle-berry (*Vaccinium dumosum*)—see *Vaccinium*.
Butcher's Broom (*Ruscus aculeatus*)—see *Ruscus*.
Butomus (Flowering Rush, Winter Gladiolus, Lily Grass).—*Ord.* Alismaceæ. Hardy perennial aquatic. *Nat.* England. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, rose; June to Aug. *Soil*, ordinary. *Position*, margins of ponds, lakes, etc. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or Ap.
Butter & Eggs (*Narcissus incomparabilis plenus*)—see *Narcissus*.
Butter Bean (*Phaseolus vulgaris*)—see *Phaseolus*.
Butter Bur (*Petasites vulgaris*)—see *Petasites*.
Butter Bush (*Cephalanthus occidentalis*)—see *Cephalanthus*.
Buttered Haycocks (*Linaria vulgaris*)—see *Linaria*.
Butterfly Flower (*Schizanthus pinnatus*)—see *Schizanthus*.
Butterfly Iris (*Moræa papilionacea*)—see *Moræa*.
Butterfly Orchid (*Oncidium papilio*)—see *Oncidium*.
Butterfly Orchis (*Habenaria chlorantha* & *H. bifolia*)—see *Habenaria*.
Butterfly Pea (*Clitoria Mariana*)—see *Clitoria*.
Butterfly Plant (*Phalænopsis amabilis*)—see *Phalænopsis*.
Butterfly Tulip (*Calochortus uniflorus*)—see *Calochortus*.
Butterfly-weed (*Asclepias tuberosa* & *Calochortus venustus*)—see *Asclepias* & *Calochortus*.
Butter-weed (*Erigeron canadensis* & *Senecio lobatus*)—see *Erigeron* & *Senecio*.
Butterwort (*Pinguicula vulgaris*)—see *Pinguicula*.
Button-hole (*Scolopendrium vulgare*)—see *Scolopendrium*.
Buttons (*Tanacetum vulgare*)—see *Tanacetum*.
Button Snake-root (*Liatris pycnostachya*)—see *Liatris*.
Button-weed (*Centaurea nigra*)—see *Centaurea*.
Button-wood (*Platanus occidentalis*)—see *Platanus*.
Buxus (Box-tree).—*Ord.* Euphorbiaceæ. Hardy shrub. Evergreen. Orn. foliage. *Nat.* England, S. Europe. *Int.* (foreign species) 1780. *Ht.* 6 in. to 20 ft. *Species* cultivated, 2. *Leaves*, green, golden or silver variegated. *Soil*, ordinary. *Position*, open or shady, shrubberies or banks. *Plant*, Mar., Ap., Sept., Oct. *Propagate* by cuttings of young shoots 3 in. long inserted in shady border in Aug. or Sept.; division of old plants in Oct. or Mar.; layering in Sept. & Oct. *Box edgings*: Dwarf Box (*B. suffruticosa*) used for this purpose. *Plant* divisions with roots attached in shallow trench 6 in. deep in Oct., Nov. or Mar. Allow plants to nearly touch each other, & to have their tips about 2 in. above soil. Press soil firmly. Trim plants Ap. or Aug. Nursery yard of box will make three yards of edging.
Byzantine Crocus (*Crocus Byzantinus*)—see *Crocus*.
Byzantine Meadow Saffron (*Colchicum Byzantinum*)—see *Colchicum*.
Cabbage (*Brassica oleracea*)—see *Brassica*.
Cabbage Lettuce (*Lactuca capitata*)—see *Lactuca*.
Cabbage Palm (*Areca oleracea* & *Chamærops palmetto*)—see *Areca* & *Chamærops*.
Cabbage Palm of Australia (*Cordyline australis*)—see *Cordyline*.
Cabbage Palm of New South Wales (*Seaforthia elegans*)—see *Seaforthia*.

Cabbage Rose (*Rosa centifolia*)—see *Rosa*.

Cabbage Tree (*Corypha australis*)—see *Corypha*.

Cacalia (Sweet Centaury, Tuberous Indian Plantain).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1752. *Species* cultivated, 2. *Ht.* 2 to 5 ft. *Flowers*, white; June to Nov. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in open garden in Ap., or division of roots in Oct. or Ap.

Cactus.—Popular name for the following plants:—*Cereus*, *Echinocactus*, *Epiphyllum*, *Mammillaria*, *Melocactus*, *Opuntia*, *Pereskia*, *Phyllocactus*, & *Rhipsalis*, which see for culture.

Cactus Dahlia (*Dahlia Juarezi*)—see *Dahlia*.

Caffre Butter (*Combretum butyrosum*)—see *Combretum*.

Caffre Lily (*Schizostylis coccinea*)—see *Schizostylis*.

Cain-&-Abel.—Tubers of *Orchis latifolia*.

Cakile (Sea Rocket).—*Ord.* Cruciferae. Hardy annual. *Nat.* Europe, N. America. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, lilac; June to Sept. *Soil*, sandy. *Position*, open borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep where plants are to flower in Mar. or Ap.

Calabash (*Passiflora maliformis*)—see *Passiflora*.

Calabrian Pine-tree (*Pinus laricio*)—see *Pinus*.

Caladium (Indian Kale, Taro).—*Ord.* Aroidæ. Stove deciduous perennials. Tuberous-rooted. Orn. foliage. *Nat.* Amazons, Brazil, Para, S. America. *Int.* 1773. *Ht.* 6 in. to 3 ft. *Species* cultivated, about 12; varieties numerous. *Leaves*, green, white, crimson, red, rose. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots in shade. *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov.; freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80°; Sept. to Nov. 65° to 75°; Nov. to Feb. 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Calamint (*Calamintha grandiflora*)—see *Calamintha*.

Calamintha (Tom Thumb Calamint, Large-flowered Calamint).—*Ord.* Labiatae. Hardy herbaceous perennials. *Nat.* Europe. *Int.* 1596. *Species* cultivated, 2. *Ht.* 3 to 12 in. *Flowers*, lilac, purple, fragrant; June to Aug. *Soil*, ordinary. *Position*, sunny rockeries & borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep outdoors in Ap.; cuttings of side shoots in cold frame in spring; division of roots in Oct. or Ap.

Calamus (Dragon's-blood Palm, Chair-bottom Cane Palm).—*Ord.* Palmaceæ. Stove palms. Evergreen. Orn. foliage. *Nat.* India, E. Indies, Himalayas, Java. *Int.* 1819. *Ht.* 3 to 20 ft. *Species* cultivated, 16. *Leaves*, large, finely divided. *Compost*, two parts turfy loam, one part leaf-mould & coarse sand. *Position*, well drained pots in shade. *Pot* firmly in Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 70° to 85°. *Propagate* by seeds sown 1 in. deep in light soil, in temp. 80° in Mar.; by suckers growing from roots, inserted in small pots of light soil under bell-glass in temp. 80°.

Calandrinia (Common Rock-Purslane, Shining Rock-Purslane, Umbel-flowered Rock-Purslane).—*Ord.* Portulacææ. Hardy annuals, biennials, & perennials. *Nat.* California, Chili, Peru. *Int.* 1826. *Ht.* 6 to 18 in. *Species* cultivated, 5. *Flowers*, rose, crimson, magenta; June to Sept. *Soil*, light, moderately rich. *Position*, sunny rockery for dwarf species; borders for tall species. *Plant* perennials in Ap. *Propagate* annuals by seeds sown $\frac{1}{4}$ in. deep in shallow boxes of light soil in temp. 55° to 60° in Mar., transplant seedlings into small pots in Ap., & plant out in June, or sow seeds outdoors where plants are to flower in Ap.; biennials by seeds sown in heat similar to annuals: perennials by division of roots in Ap.

Calanthe.—*Ord.* Orchidaceæ. Stove terrestrial orchids. Deciduous;

one species (*Steboldi*) evergreen. *Nat.* Australia, Borneo, Burmah, Cochin China, Ceylon, India, Philippines. *Int.* 1819. *Ht.* 10 in. to 2 ft. *Species* cultivated, 20; varieties numerous. *Flowers*, white, yellow, rose; Nov. to Feb. *Compost*, two parts loam, one part decayed manure & leaf-mould. *Position*, pots with a third of drainage in each. *Pot* firmly in Mar. Cover drainage with layer of moss & do not allow compost to be higher than within $\frac{1}{2}$ in. of rim. *Water* deciduous kinds freely Ap. to Sept.; moderately Sept. to Jan.; keep quite dry afterwards; evergreen kinds water freely at all times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Jan. 60° to 70°; Jan. to Mar. 55° to 65°. *Propagate* by division of pseudo bulbs in Mar.

Calathea (*Zebra Plant*).—*Ord.* Scitamineæ. *Stove plants.* *Orn.* foliage. *Nat.* Brazil, Columbia, Peru, Trop. America. *Ht.* 5 in. to 2 ft. *Species* cultivated, 25; varieties numerous. *Leaves*, green, rose, yellow, white & olive on upper sides; rosy-purple beneath. *Compost*, equal parts coarse lumps of loam, peat, leaf-mould & sand. *Position*, well drained pots in shade. *Pot*, Mar., moderately firm. *Water* freely Ap. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 65° to 70°. *Propagate* by division of roots in Mar.

Calathian Violet (*Gentiana pneumonanthe*)—see *Gentiana*.

Calceolaria (Slipper-flower, Slipper-wort).—*Ord.* Scrophulariaceæ. Half-hardy or greenhouse shrubs & herbaceous perennials. *Nat.* Chili, Falkland Islands, Peru. *Int.* 1733. *Ht.* 3 in. to 3 ft. *Species* cultivated, 21; varieties several. *Flowers*, yellow, violet, red, brown, white; May to Nov. *Herbaceous kinds*: Sow seeds on surface of fine soil in well drained pans or shallow boxes in July. Cover box or pan with sheet of glass & stand them under bell-glass or in cold frame. Shade from sun & keep moderately moist. Transplant seedlings 1 in. apart in fine soil in Aug., transfer them singly into 2 in. pots in Sept., into 5 in. in Oct., & 6 or 7 in. in Mar. *Compost*, two parts sandy loam, one part leaf-mould, decayed manure & sand. *Water* moderately until Ap., then apply freely. Apply liquid manure from Ap. till plants are in flower. *Temp.*, Aug. to Mar. 45° to 60°; Mar. to May 60° to 65°. Discard plants after flowering. *Shrubby kinds*: *Compost*, same as for herbaceous kinds. *Position*, pots in windows or greenhouses, or in sunny or shady beds outdoors in sum. *Pot* in Mar.; plant in May. *Propagate* by cuttings 3 in. long inserted in sandy soil in cool shady frame in Sept. or Oct., or in pots or boxes in cool greenhouse or window in Sept. Cuttings to remain in frames, etc., till potting or planting time. Protect from frost. *Water* moderately in autn. & winter, freely in sum.

Calendula (Cape Marigold, Mary-bud, Pot Marigold, Goldins).—*Ord.* Compositæ. Hardy annuals. *Nat.* Europe, S. Africa. *Int.* 1726. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, orange, single & double; June to Sept. *Soil*, ordinary. *Position*, sunny or shady. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar. or Ap. where plants are to flower.

Calif's Snout (*Antirrhinum orontium*)—see *Antirrhinum*.

Calico Bush (*Kalmia latifolia*)—see *Kalmia*.

Californian Alder (*Alnus rhombifolia*)—see *Alnus*.

Californian Blue Oak (*Quercus Douglasi*)—see *Quercus*.

Californian Box Elder (*Negundo californicum*)—see *Negundo*.

Californian Buck Eye (*Pavia californica*)—see *Pavia*.

Californian Cedar (*Thuja gigantea*)—see *Thuja*.

Californian Chain Fern (*Woodwardia radicans*)—see *Woodwardia*.

Californian Columbine (*Aquilegia californica*)—see *Aquilegia*.

Californian Cone-flower (*Rudbeckia californica*)—see *Rudbeckia*.

Californian Elder (*Sambucus glauca*)—see *Sambucus*.

Californian Evergreen Red-wood-tree (*Sequoia sempervirens*)—see *Sequoia*.

Californian Fuchsia (*Zauschneria californica*)—see *Zauschneria*.

- Californian Giant Pine-tree** (*Pinus Lambertiana*)—see *Pinus*.
Californian Hyacinth (*Brodiaea congesta*)—see *Brodiaea*.
Californian Lace Fern (*Cheilanthes gracillima*)—see *Cheilanthes*.
Californian Lilac (*Ceanothus integerrimus* & *C. thyrsiflorus*)—see *Ceanothus*.
Californian Lily (*Lilium californica*)—see *Lilium*.
Californian Orange Poppy (*Eschscholtzia californica crocea*)—see *Eschscholtzia*.
Californian Pink Poppy (*Eschscholtzia californica rosea*)—see *Eschscholtzia*.
Californian Pitcher-plant (*Darlingtonia californica*)—see *Darlingtonia*.
Californian Plane-tree (*Platanus racemosa*)—see *Platanus*.
Californian Poppy (*Platystemon californicus* & *Eschscholtzia californica*)—see *Platystemon* & *Eschscholtzia*.
Californian Prairie Grass (*Ceratochloa unioloides*)—see *Addenda*.
Californian Red Alder (*Alnus rubra*)—see *Alnus*.
Californian Red-wood-tree (*Ceanothus spinosus*)—see *Ceanothus*.
Californian Rhododendron (*Rhododendron californicum*)—see *Rhododendron*.
Californian Silver Fir (*Picea concolor*)—see *Picea*.
Californian White Poppy (*Eschscholtzia californica alba*)—see *Eschscholtzia*.
Caliphurria.—*Ord.* Amaryllidaceæ. Greenhouse plant. Bulbous-rooted. *Nat.* Columbia. *Int.* 1876. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, white; Nov. to Feb. *Compost*, two parts sandy loam, one part leaf-mould, peat & sand. *Position*, well drained pots, sunny. *Pot.* Mar., placing one bulb 3 in. deep in a 5 in. pot. *Water* moderately Mar. to Oct., very little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by offsets placed in small pots in Mar.
Calla (Bog Arum, Water Dragon).—*Ord.* Aroidæ. Hardy floating aquatic. *Nat.* Europe, N. America. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white; sum. *Soil*, rich, boggy or muddy. *Position*, moist bog on shallow pond. *Plant.* Mar. or Ap. *Propagate* by inserting portions of stems in boggy or muddy soil where plants are required to grow.
Calla Lily (*Richardia æthiopica*)—see *Richardia*.
Callicarpa (French Mulberry, Purple Mulberry).—*Ord.* Verbenacæ. Stove plant. Orn. fruit. *Nat.* India. *Int.* 1822. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Berries*, deep violet, borne abundantly in axils of leaves; Nov. to May. *Compost*, equal parts peat & loam, with little sand. *Position*, pots, sunny. *Pot.* Mar. *Prune* straggly shoots into shape before potting. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of young shoots inserted in 2 in. pots of sandy soil in Mar. in temp. 80°. To ensure plenty of berries, keep the points of shoots frequently pinched off & all flowers removed until the end of July.
Callichroa.—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1836. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, yellow; Aug. to Nov. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep where plants are to flower.
Calliprora (Pretty Face).—*Ord.* Liliacæ. Hardy bulbous perennial. *Nat.* N. California. *Int.* 1831. *Ht.* 9 in. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Soil*, rich sandy. *Position*, sunny, well drained rockery. *Plant* bulbs 4 in. deep & 3 in. apart in Sept. & Oct. *Lift & replant bulbs annually. Propagate* by offsets treated as bulbs.
Callirhoe (Crimson Poppy-Mallow, Finger-leaved Poppy-Mallow,

Long-stalked Poppy-Mallow, Purple Poppy-Mallow.—*Ord.* Malvaceæ. Hardy annuals & perennials. *Nat.* N. America. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 4 perennials, 1 annual. *Flowers*, purple, crimson, red, violet; June to Aug. *Soil*, ordinary. *Position*, open borders. *Plant* perennials Oct. or Mar. *Propagate* annual species by seeds sown $\frac{1}{2}$ in. deep in pans of light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May, or where plants are to flower in Ap.; perennials by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap. or cuttings of young shoots inserted in sandy soil in cold frame in spring.

Callistephus (China Aster).—*Ord.* Compositæ. Hardy annual. *Nat.* China. *Int.* 1731. *Ht.* 6 in. to 2 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, purple, white, red, crimson, blue; July to Nov. *Soil*, rich, liberally manured. *Position*, open, sunny, well drained. *Outdoor culture*: Sow seeds $\frac{1}{2}$ in. deep in light soil in temp. 55° to 65° in Mar., transplant seedlings in Ap. 2 in. apart in shallow boxes or in bed of light soil in cold frame, plant out 6 to 12 in. apart in outdoor beds in May; or sow seeds same depth & soil in cold frame, or in pots in window in Ap. & plant outdoors in May. Apply weak liquid manure twice a week during July & Aug. To secure exhibition blooms pinch off all flower buds except three or four on each plant directly they form. *Pot culture*: Sow seeds as advised above. *Transplant* three seedlings into a 3 in. pot in Ap., into 5 in. in May & 6 in. in June. *Compost*, equal parts loam, leaf-mould, decayed manure & sand. *Water* freely & apply liquid manure once a week when flower buds are formed. Thin out latter to three on each plant. Plants may be lifted from open ground in Aug. & placed in pots to flower if desired.

Calluna (Common Ling, Heather).—*Ord.* Ericaceæ. Hardy shrub. Evergreen. *Nat.* N. & C. Europe, Britain. *Ht.* 1 to 3 ft. *Species* cultivated, 1; variety, 1. *Flowers*, rose, white; July to Sept. *Soil*, bog or peat. *Position*, moist, open. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by division of plant in Oct. or Ap.

Calechortus (Butterfly Tulip, Butterfly-weed, Wild Tulip, Mariposa Lily).—*Ord.* Liliaceæ. Half-hardy bulbous plants. *Nat.* California. *Int.* 1826. *Ht.* 3 to 18 in. *Species* cultivated, 12. *Flowers*, white, yellow, lilac, purple, crimson; June to Aug. *Frame culture*: Prepare bed 12 in. deep with compost of equal parts loam, peat, leaf-mould & sand. *Plant* bulbs 3 in. deep & 4 in. apart in Nov. Keep lights on in frosty weather; off night & day in fair weather. *Water* in dry weather. *Lift* & replant every three years. *Pot culture*: Use same compost as advised for frame culture. *Place* a dozen bulbs 2 in. deep in a 5 in. pot in Nov. Cover pots with ashes in cold frame & give no water. Remove pots from ashes in Jan. & place in cool greenhouse near glass. *Water* moderately till after flowering, then gradually withhold it. *Repot* annually in Nov. *Outdoor culture*: *Plant* bulbs in similar soil & manner to that advised for frames. Bed must be dry in winter, sunny, at foot of south wall. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of sandy soil in temp. 45° to 55° in Mar., transplanting seedlings following year into small pots & treating similar to old bulbs; by offsets planted like bulbs in Nov.

Calodendron (Cape Chestnut)—*Ord.* Rutaceæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 4 to 40 ft. *Species* cultivated, 1. *Flowers*, rose; sum. *Compost*, two parts loam, one part peat & sand. *Position*, pots or tubs, sunny. *Pot & prune*, Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots 3 in. long inserted in sandy soil under bell-glass in temp. 60° in June or July.

Calophaca (Wing-leaved Calophaca).—*Ord.* Leguminosæ. Hardy shrubs. Deciduous. *Nat.* Siberia. *Int.* 1786. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Soil*, ordinary. *Position*, open

shrubbery. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Nov. or Mar.; by grafting on common laburnum in Mar.

Calopogon (Grass Pink Orchis).—*Ord.* Orchidaceæ. Hardy herbaceous orchid. *Nat.* N. America. *Int.* 1791. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, pale yellow; Aug. to Oct. *Soil*, peaty. *Position*, moist, open on rocky. *Plant*, Mar. or Ap. *Propagate* by offsets treated as old plants.

Calostemma.—*Ord.* Amaryllidaceæ. Greenhouse flowering plant. Bulbous. Deciduous. *Nat.* New Holland. *Int.* 1819. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, purple; Sept. to Dec. *Compost*, two parts loam, one part peat & sand. *Pot.*, Aug. *Position*, sunny greenhouse. *Water* freely Mar. to July, moderately July to Sept., very little afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by offsets at potting time.

Caltha (Marsh Marigold, Gold, Goldings, Water Gowan, Double Marsh Marigold).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Britain, S. Europe, N. America. *Int.* (foreign species) 1815. *Ht.* 3 in. to 12 in. *Species* cultivated, 3. *Flowers*, white, yellow; Ap. to June. *Soil*, rich. *Position*, marshy, or banks of ponds. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or July.

Calvary Clover (*Medicago echinus*)—see *Medicago*.

Calycanthus (Carolina All-spice).—*Ord.* Calycanthaceæ. Hardy shrubs. Deciduous. *Nat.* Carolina, Pennsylvania. *Ht.* 3 to 12 ft. *Species* cultivated, 4. *Flowers*, purple, fragrant; Ap. to June. *Compost*, two parts peat, one part loam & leaf-mould. *Position*, south or west walls, or sheltered shrubbery South of England. *Plant*, Oct. to Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in cold frame, Mar.; by layers of shoots in July & Aug.

Calypso (Calypso Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchid. *Nat.* N. America. *Int.* 1820. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, rose-brown; June to Aug. *Compost*, two parts leaf-mould, one part fibry peat & coarse sand. *Position*, shady, margins of rockwork or bog. *Plant*, Oct. or Mar. *Propagate* by offsets treated as old plants at planting time.

Calystegia (Double Chinese Bindweed, Dahurian Bindweed).—*Ord.* Convolvulaceæ. Hardy herbaceous trailing & climbing perennials. *Nat.* Dahuria, China, Britain, N. America. *Int.* (foreign species) 1826. *Ht.* 3 to 10 ft. *Flowers*, rose, purple, white, red; July to Sept. *Soil*, ordinary. *Position*, sunny. *Plant*, Oct. to Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of sandy soil in temp. 55° in Mar., or similar depth in Ap. where plants are to flower; by division of roots in Oct. or Mar.

Camassia (Bear's Grass, Wild Hyacinth, Californian Quamash).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* California, N. America. *Int.* 1837. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, blue, creamy white; June to Sept. *Compost*, equal parts loam, leaf-mould & coarse sand. *Position*, sheltered beds or borders. *Plant* bulbs 4 in. deep & 4 in. apart in Oct. or Feb. *Top-dress* annually with decayed manure. *Lift* & replant every four years. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Mar., or $\frac{1}{2}$ in. deep in boxes of light soil in temp. 55° in Nov.; by offsets in Oct. or Feb.

Cambie Leaf (*Nymphaea alba* & *Nuphar lutea*)—see *Nymphaea* & *Nuphar*.

Cambi Resin-plant (*Gardenia lucida*)—see *Gardenia*.

Camellia (Japan Rose, Tea-plant).—*Ord.* Ternstræmiaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Japan, China. *Int.* 1739. *Ht.* 3 to 10 ft. *Species* cultivated, 4; varieties numerous. *Flowers*, various; Nov. to May. *Compost*, equal parts turfy loam, peat & sand. *Position*, pots or tubs in greenhouse, against south wall, or in sheltered shrubberies outdoors in S. of England. *Pot.*, Mar. or Ap. *Plant* outdoors Oct. or Mar. *Water* moderately Sept. to Mar., freely afterwards. *Prune* at potting time. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Place* plants outdoors on bed

of cinder ashes July to Sept. *Apply* stimulants once a week Aug. to Mar. *Suitable stimulants*: Solution of sheep droppings & soot, clear soot water, guano & water, or artificial manures. *Cause of buds dropping*, dry atmosphere & insufficient water at roots. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy peat in temp. 75° in Mar.; by cuttings of firm shoots inserted in well drained pots of sandy peat in cool greenhouse in Aug., transferring pots in Mar. to temp. 55° & putting cuttings in small pots following Sept.; by layers of shoots in Sept.; grafting in Mar.

Camel's Thorn (*Hedysarum Alhagi*)—see *Hedysarum*.

Camomile (*Anthemis nobilis*)—see *Anthemis*.

Campanula (Bellflower, Harebell, Dane's Blood, Steeple-bell, Canterbury-bell, Lady's Thimble, Withes-bell, Lady's Looking-glass, Venus' Looking-glass, Garden Rampion, Corn Violet, Coventry-bells).—*Ord.* Campanulaceæ. Hardy biennials & perennials. *Nat.* Europe, N. America, Italy, Island of Samos, Britain, China, Greece, Azores, Mount Lebanon. *Int.* (foreign species) 1596. *Ht.* 3 in. to 4 ft. *Species* cultivated, 45. *Flowers*, blue, white, violet, rose; May to Sept. *Soil*, ordinary, rich. *Position*, trailing species on sunny rockeries; tall species beds & borders, sunny or shady. *Plant*, Oct. to Ap. *Pot culture*: *Compost*, equal parts leaf-mould, loam & sand. Trailing kinds grow in small pots in hanging baskets. *Repot* them in Mar. *Water* moderately in winter, freely other times. Tall kinds grow singly in 5-in. pots or three in a 7-in. pot. *Sow seeds* of these in cold frame in Aug.; transplant seedlings singly in 3-in. pots in Oct., into 5-in. in Ap., 7-in. in May. *Water* moderately in winter, freely in sum. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 55° in Mar. or Aug.; by cuttings of young shoots in light soil in cold frame in Aug. or Mar.; division of roots in Oct. or Ap.

Campbell's Magnolia (*Magnolia Campbelli*)—see *Magnolia*.

Camperdown Weeping Elm (*Ulmus montana* var. *pendula*)—see *Ulmus*.

Campernelle (*Narcissus odoratus*)—see *Narcissus*.

Campion (*Lychnis diurna*)—see *Lychnis*.

Canada Balsam-tree (*Pinus balsamea* & *P. Fraseri*)—see *Pinus*.

Canada Blue-berry (*Vaccinium myrtillus*)—see *Vaccinium*.

Canadian Bush Clover (*Hedysarum canadense*)—see *Hedysarum*.

Canadian Columbine (*quilegia canadensis*)—see *Aquilegia*.

Canadian Flea-bane (*Erigeron canadensis*)—see *Erigeron*.

Canadian Golden Rod (*Solidago canadensis*)—see *Solidago*.

Canadian Honeysuckle (*Lonicera canadensis*)—see *Lonicera*.

Canadian Lily (*Lilium canadensis*)—see *Lilium*.

Canadian St. John's-wort (*Hypericum canadense*)—see *Hypericum*.

Canadian Yew-tree (*Taxus canadensis*)—see *Taxus*.

Canarina (Canary Island Bellflower).—*Ord.* Campanulacæ. Greenhouse herbaceous perennial. *Nat.* Canary Islands. *Int.* 1696. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow, purple, orange; Jan. to Mar. *Compost*, equal parts loam, leaf-mould, decayed manure & silver sand. *Position*, pots. *Pot*, Feb.; good drainage very essential. *Water* liberally Mar. to Aug., moderately Aug. to Nov., very little afterwards. *Temp.*, Sept. to Feb. 45° to 55° ; Mar. to Sept. 55° to 65° . *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 65° in Mar. or Ap.; division of roots in Feb.

Canary Bird Nasturtium (*Tropæolum aduncum*)—see *Tropæolum*.

Canary Creeper (*Tropæolum aduncum*)—see *Tropæolum*.

Canary Grass (*Phalaris canariensis*)—see *Phalaris*.

Canary Island Holly (*Ilex canariensis*)—see *Ilex*.

Canary Island Juniper (*Juniperus cedrus*)—see *Juniperus*.

Canary Island St. John's-wort (*Hypericum canariense*)—see Hypericum

Canary Seed Plant (*Phalaris canariensis*)—see Phalaris.

Cancer-wort (*Linaria spuria*)—see Linaria.

Candelabra-flower (*Brunsvigia Josephinae*)—see Brunsvigia.

Candelabrum Bellflower (*Campanula macrostylos*)—see Campanula.

Candle-berry Myrtle (*Myrica Gale*)—see Myrica.

Candlemas Bells (*Galanthus nivalis*)—see Galanthus.

Candle Plant (*Cuculia articulata*)—see Cuculia.

Candle-wick (*Verbascum Thapsus*)—see Verbascum.

Can Dock (*Nuphar lutea* & *Nymphaea alba*)—see Nuphar & Nymphaea.

Candy Mustard (*Aethionema saxatile*)—see Aethionema.

Candytuft (*Iberis amara*)—see Iberis.

Cane Apple (*Arbutus unedo*)—see Arbutus.

Canistrum.—Ord. Bromeliaceae. Stove flowering plants. Nat. Brazil. Int. 1873. Ht. 1 to 2 ft. Species cultivated, 3. Flowers, yellow, white, green; May to Sept. Compost, equal parts fib. y loam, rough peat & silver sand; good drainage essential. Pot, Mar. Water freely always. Temp., Sept. to Mar. 65° to 75°; Mar. to Sept. 70° to 80°. Propagate by offshoots inserted in small pots in temp. 85° in Ap.

Canker Rose (*Papaver Rhæas*)—see Papaver.

Canker-weed (*Senecio Jacobæa*)—see Senecio.

Canna (Indian Shot plant).—Ord. Scitamiaceae. Stove herbaceous plants. Nat. S. America, W. Indies, Costa Rica, Brazil, Peru. Int. 1570. Ht. 3 to 8 ft. Species cultivated, 22. Flowers, orange, purple, rose, red, scarlet; May to Sept. Compost, equal parts loam, decayed manure, leaf-mould & sand. Position pots in greenhouse, or sunny positions in beds outdoors in sum. Pot, Mar. Water freely Mar. to Oct., very little afterwards. Temp., Sept. to Mar. 40° to 50°; Mar. to Sept. 65° to 95°. Outdoor culture: Place roots in pots in Mar. in temp. 55° to 60°. Remove pots into temp. 50° to 55° end of Ap. & plant outdoors early in June. Lift roots in Sept., place them in boxes filled with ordinary soil, keep latter nearly dry, & store in frost-proof position till potting time. Propagate by seeds steeped for 24 hours in tepid water, then sown ½ in. deep in light soil in temp. 85° in Feb.; division of roots at potting time.

Cannabis (Hemp-plant).—Ord. Urticaceae. Hardy annuals. Orn. foliage. Nat. India, China. Int., date unknown. Ht. 4 to 10 ft. Flowers, green; June. Soil, ordinary. Position, sunny borders. Propagate by seeds sown ½ in. deep outdoors, where plants are to grow, in Ap., or in temp. 55° in Mar., transplanting seedlings in June.

Canoe Wood (*Liriodendron tulipiferum*)—see Liriodendron.

Canopy Plane-tree (*Platanus acerifolia umbellata*)—see Platanus.

Canterbury Bells (*Campanula medium*)—see Campanula.

Canterbury Seedling Elm (*Ulmus glabra* var. *major*)—see Ulmus.

Cantua (Peruvian Magic tree).—Ord. Polemoniaceae. Greenhouse shrubs. Evergreen. Nat. Peru. Int. 1846. Ht. 3 to 4 ft. Species cultivated, 3. Flowers, red, yellow, scarlet; Mar. to May. Compost, two parts turfy loam, one part leaf-mould & sand. Position, pots, sunny greenhouse. Pot, Mar. Water moderately Sept. to Mar., freely Mar. to Sept. Temp., Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. Propagate by cuttings of shoots inserted in pure silver sand under bell-glasses in temp. 60° to 65°, May to Aug.

Cape Alkanet (*Anchusa capensis*)—see Anchusa.

Cape Aloe (*Aloe ferox*)—see Aloe.

Cape Asparagus (*Aponogeton distachyon*)—see Aponogeton.

Cape Aster (*Agathaea amelloides*)—see Agathaea.

CAPE COAST LILY.

CARDINAL-FLOWERED GLADIOLUS.

Cape Coast Lily (*Orinum spectabile*)—see *Crinum*.

Cape Cowslip (*Lachenalia tricolor*)—see *Lachenalia*.

Cape Crocus (*Gethyllis spiralis*)—see *Gethyllis*.

Cape Fig-wort (*Phygelius capensis*)—see *Phygelius*.

Cape Forget-me-not (*Anchusa capensis*)—see *Anchusa*.

Cape Gooseberry (*Physalis peruviana*)—see *Physalis*.

Cape Honeysuckle (*Tecoma capensis*)—see *Tecoma*.

Cape Jasmine (*Gardenia florida*)—see *Gardenia*.

Cape Lily (*Crinum capense*)—see *Crinum*.

Cape Pond-weed (*Aponogeton distachyon*)—see *Aponogeton*.

Cape Primrose (*Streptocarpus biflorus*)—see *Streptocarpus*.

Cape Red Tulip (*Hemanthus coccineus*)—see *Hemanthus*.

Cape Treasure-flower (*Gazania pavonia*)—see *Gazania*.

Caper Bush (*Capparis spinosa*)—see *Capparis*.

Caper Spurge (*Euphorbia lathyris*)—see *Euphorbia*.

Capillaire (*Adiantum capillus-veneris*)—see *Adiantum*.

Capparis (Caper-tree).—*Ord.* Capparidaceæ. Greenhouse shrub; hardy S. of England. Evergreen. *Nat.* S. Europe. *Int.* 1596. *Ht.* 3 ft. *Specs* cultivated, 1. *Flowers*, white, red; *May* to *July*. *Compost*, two parts turfy loam, one part leaf-mould & sand. *Position*, pots in sunny greenhouse, or sheltered border outdoors. *Pot*, Mar.; good drainage essential. *Plant* outdoors Sept. to Nov. *Water* moderately in pots Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of firm shoots in sand under bell-glasses in temp. 65° to 75°, *July* or *Aug.*

Caprifole (*Lonicera caprifolium*)—see *Lonicera*.

Caspian Honey Locust-tree (*Gleditschia capsica*)—see *Gleditschia*.

Capsicum (Cayenne Pepper, Chilies, Red Pepper).—*Ord.* Solanaceæ. Tender annual bearing edible fruit. *Nat.* S. America. *Int.* 1518. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; *June*. *Fruit*, long, round, red & yellow. *Soil*, light, rich. *Position*, pots in sunny greenhouse, against south walls outdoors in sun. *Pot culture*: Sow seeds $\frac{1}{2}$ in. deep in temp. 80° in Feb. Place seedlings singly in 3-in. pots in Mar. & in 6-in. pots in May. *Water* freely & grow throughout in temp. 75° to 85°. Gather fruit when full red or yellow colour is attained. *Outdoor culture*: Sow seeds & grow seedlings in pots as advised in previous case. *Plant* out in *June*. *Train* shoots thinly to wall as they grow.

Captain Rawe's Camellia (*Camellia reticulata*)—see *Camellia*.

Caragana (Siberian Pea-tree, Chinese Pea-tree).—*Ord.* Leguminosæ. Hardy trees & Shrubs. Deciduous. *Nat.* Dahuria, Siberia, China. *Int.* 1751. *Ht.* 1 to 6 ft. *Species* cultivated, 4. *Flowers*, yellow, white, red; *Ap.* to *July*. *Soil*, ordinary. *Position*, open shrubbery. *Plant*, Oct. to Mar. *Propagate* by seeds sown 2 in. deep in ordinary soil outdoors in Nov. or Mar.; cuttings of roots inserted 3 in. deep outdoors in Oct.; layers of strong shoots in Sept.; grafting in Mar.

Caraway (*Carum Carvi*)—see *Carum*.

Caraway-leaved Heron's-bill (*Erodium carnifolium*)—see *Erodium*.

Cardamine (Bitter-cress, Cuckoo-flower).—*Ord.* Cruciferæ. Hardy perennial herbs. *Nat.* Britain, S. Europe, Siberia, America. *Int.* (foreign species) 1629. *Ht.* 4 in. to 2 ft. *Species* cultivated, 6. *Flowers*, white, purple; *Mar.* to *June*. *Soil*, ordinary. *Position*, moist, shady border. *Plant*, Oct., Nov., Mar., or *Ap.* *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in *Ap.*; division of roots in Oct.

Cardinal-flowered Gladiolus (*Gladiolus cardinalis*)—see *Gladiolus*.

Cardinal Flower (*Lobelia cardinalis* & *Cleome cardinalis*)—see *Lobelia* & *Cleome*.

Cardinal Monkey-flower (*Mimulus cardinalis*)—see *Mimulus*.

Cardoon (*Cynara cardunculus*)—see *Cynara*.

Carduus—formerly the generic name of the Blessed Thistle (*Cnicus benedicta*).

Carex (Blue-grass, Sedge, Sp're grass)—*Ord.* Cyperaceæ. Hardy herbaceous perennial grasses. Orn. foliage. *Nat.* Britain, India, America, *Ht.* 2 to 4 ft. *Species* cultivated, 8. *Soil*, ordinary. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by seeds sown where plants are to grow in Mar.; division of roots in Mar.

Carinthian Saxifrage (*Saxifraga carin'hiara*)—see *Saxifraga*.

Carlina (Carlina Thistle).—*Ord.* Compositæ. Hardy perennials. *Nat.* S. Europe. *Int.* 1610. *Ht.* 9 in. to 2 ft. *Species* cultivated, 2. *Flowers*, white; June. *Soil*, ordinary. *Position*, open dryish border. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap. where plants are required to grow.

Carludovica (Palmetto Palm, Panama Hat tree).—*Ord.* Cyclanthaceæ. Stove plants. Orn. foliage. *Nat.* Costa Rica, New Grenada, Columbia, Peru. *Int.* 1818. *Ht.* 4 ft. *Species* cultivated, 6. *Leaves*, green, divided, palm-like. *Compost* two parts peat, one part sandy loam. *Position*, moist, shady. *Pot.*, Mar. *Water* moderately Nov. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by division of plant at potting time.

Carmine-rose Camellia (*Camellia imbricata*)—see *Camellia*.

Carnation (*Dianthus caryophyllus*)—see *Dianthus*.

Carnation Grass (*Carex glauca* & *C. panicea*)—see *Carex*.

Carnation Poppy (*Papaver somniferum*)—see *Papaver*.

Carniola Lily (*Lilium carniolicum*)—see *Lilium*.

Carniolic Primrose (*Primula carniolica*)—see *Primula*.

Carob Tree (*Ceratonia siliqua*)—see *Ceratonia*.

Carolina Allspice (*Calycanthus glaucus*)—see *Calycanthus*.

Carolina Cypress Vine (*Ipomœa caroliniana*)—see *Ipomœa*.

Carolina Maple (*Acer barbatum*)—see *Acer*.

Carolina Mock Orange (*Prunus caroliniana*)—see *Prunus*.

Carolina Poplar (*Populus monilifera*)—see *Populus*.

Carolina Windflower (*Anemone caroliniana*)—see *Anemone*.

Carpathian Balsam-tree (*Pinus cembra*)—see *Pinus*.

Carpathian Bell-flower (*Campanula carpatica*)—see *Campanula*.

Carpathian Everlasting (*Antennaria carpatica*)—see *Antennaria*.

Carpathian Snow-flake (*Leucojum carpaticum*)—see *Leucojum*.

Carpenteria (Californian Mock Orange).—*Ord.* Saxifragæ. Hardy flowering shrub. Deciduous. *Nat.* California. *Int.* 1880. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white; June & July. *Soil*, light loamy. *Position*, sheltered position in shrubbery or against south wall. *Plant*, Oct. or Nov. *Prune* away shoots that have flowered directly blossoms fade. *Propagate* by cuttings of young shoots inserted in cold frame in Ap.; suckers removed from roots in autn.; layering shoots in Sept.

Carpenter's Herb (*Rivina humilis*)—see *Rivina*.

Carpet Plant (*Ionopsidium acaule*)—see *Ionopsidium*.

Carpinus (Horn-beam, Horn beech, Blue-beech, Water-beech).—*Ord.* Cupulifere. Hardy deciduous trees. Orn. foliage. *Nat.* Britain, N. America. *Int.* (foreign species) 1812. *Ht.* 10 to 70 ft. *Species* cultivated, 2. *Flowers*, yellow; May. *Leaves*, green, golden, or silver. *Soil*, ordinary. *Position*, open, exposed. *Plant*, Oct. to Mar. Native species (*C. betula*) makes good sedge. *Plant* three-year old seedlings 3 ft. for this purpose & prune shoots

in closely every autn. *Propagate* by seeds sown 1 in. deep in autn. in ordinary soil outdoors. Transplant seedlings when a year old 2 ft. apart each way.

Carrion Flower (*Stapelia hirsuta*)—see *Stapelia*.

Carrot-rooted Sunflower (*Helianthus strumosus*)—see *Helianthus*.

Carthaginian Apple (*Punica granatum*)—see *Punica*.

Carthamus (Saffron Thistle, Safflower).—*Ord.* Compositæ. Hardy annuals. *Nat.* Egypt, S. Europe. *Int.* 1651. *Ht.* 2 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; June. *Soil*, ordinary. *Position*, sunny border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° in Mar., transplanting seedlings where they are to flower in May.

Carum (Caraway).—*Ord.* Umbelliferæ. Hardy biennial. Seeds used largely in confectionery & perfumery. *Nat.* Europe, Britain. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, open, sunny. *Propagate* by seeds sown in drills 1 in. deep & 10 in. apart in Ap. Thin seedlings to 8 in. apart in June. Gather seeds following June or July.

Caryota (East Indian Wine Palm, Toddy Palm).—*Ord.* Palmaceæ. Stove palms. *Orn.* foliage. *Nat.* Malacca, Philippine Islands, India. *Int.* 1788. *Ht.* 5 to 50 ft. *Species* cultivated, 4. *Compost*, equal parts loam, leaf-mould & coarse sand. *Position*, pots, moist, shady. *Pot*, Mar. *Water* freely Mar. to Nov., moderately afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 85°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° in Mar.; suckers removed from roots, inserted in small pots, any time.

Cashmere Larkspur (*Delphinium cashmerianum*)—see *Delphinium*.

Cashmere Primrose (*Primula cashmeriana*)—see *Primula*.

Casque-wort (*Galeandra Devoniana*)—see *Galeandra*.

Cassia (Senna plant).—*Ord.* Leguminosæ. Greenhouse evergreen shrubs & hardy perennials. *Nat.* Buenos Ayres, W. Indies, C. & S. America, N. S. Wales. *Int.* 1723. *Ht.* 2 to 6 ft. *Species* cultivated, 3 greenhouse, 1 hardy perennial. *Flowers*, yellow; Ap. to Dec. *Compost*, two parts loam, one part peat & sand. *Position*, pots in greenhouse, or well drained border against south wall. *Pot*, Mar. *Plant* outdoors Ap. *Water* greenhouse species moderately Nov. to Feb., freely afterwards. *Prune* straggling shoots to within 2 in. of base in Dec. or Jan. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar.; cuttings of previous year's shoots inserted in sandy soil under bell-glass in temp. 80° in Mar.

Cassiope.—*Ord.* Ericacæ. Hardy evergreen shrubs. *Nat.* N. America, Lapland. *Int.* 1798. *Ht.* 3 to 9 in. *Species* cultivated, 2. *Flowers*, white; Mar. to June. *Soil*, sandy peat. *Position*, moist, shady. *Plant*, Sept. to Ap. *Propagate* by layering shoots in autn.

Castanea (Chestnut).—*Ord.* Corylaceæ. Hardy deciduous trees. *Orn.* foliage. *Nat.* Asia Minor, N. America. *Int.* 1699. *Ht.* 12 to 70 ft. *Species* cultivated, 2. *Flowers*, yellow; June. *Nuts* ripe in Oct. *Soil*, deep, rich, sandy. *Position*, open, sunny. *Plant*, Oct. to Feb. *Propagate* by sowing nuts 3 in. deep & 6 in. apart in open garden in Nov. or Feb. Transplant seedlings when a year old. Distance apart to plant, 25 ft. for avenues & 5 ft. apart for underwood.

Castor Bean (*Ricinus communis*)—see *Ricinus*.

Castor Oil-plant (*Ricinus communis*)—see *Ricinus*.

Castor Wood (*Magnolia glauca*)—see *Magnolia*.

Catalpa (Indian Bean, French Oak, St. Domingo Oak).—*Ord.* Bignoniaceæ. Hardy deciduous flowering trees. *Nat.* N. America, W. Indies. *Int.* 1726. *Species* cultivated, 4. *Flowers*, white, purple, yellow, fragrant; June & July. *Soil*, ordinary, good. *Position*, sunny, sheltered. *Plant*, Oct. to Ap. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell glass in temp. 55° to 65° in sum.

Catalonian Jasmine (*Jasminum grandiflorum*)—see *Jasminum*.

Catananche (Blue Cupidone, Blue Succory).—*Ord.* Compositæ. Hardy perennial. *Nat.* S. Europe. *Int.* 1593. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, blue, white, Aug. *Soil*, ordinary. *Position*, warm borders. *Plant*, Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° in Mar., transplanting seedlings outdoors in June.

Catasetum.—*Ord.* Orchidaceæ. Stove deciduous orchids. *Nat.* Brazil, Demerara, Trop. America. *Int.* 1822. *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, white, yellow, purple, brown; May to Sept. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off, very little other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant at potting time.

Catawba Rhododendron (*Rhododendron Catawbiense*)—see *Rhododendron*.

Cat Berries (*Ribes grossularia*)—see *Ribes*.

Cat Briar (*Smilax aspera*)—see *Smilax*.

Catch-fly (*Silene pendula* & *Lychnis dioica*)—see *Silene* & *Lychnis*.

Cat Chop (*Mesembryanthemum felinum*)—see *Mesembryanthemum*.

Catesby's Rhododendron (*Rhododendron Catesbei*)—see *Rhododendron*.

Catha (Abyssinian Tea-plant).—*Ord.* Celastraceæ. Greenhouse shrub. Evergreen. *Nat.* Arabia. *Int.*, date unknown. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white; sum. *Leaves* eaten by Arabs as substitute for opium. *Compost*, equal parts peat, loam & sand. *Pot*, Mar. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots inserted in sandy peat under bell-glass in temp. 75° in sum.

Cathcartia (Cathcart's Poppy).—*Ord.* Papaveraceæ. Hardy herbaceous biennial. *Nat.* Sikkim, Himalayas. *Int.* 1850. *Ht.* 10 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; June. *Soil*, ordinary, dryish. *Position*, sunny, well drained rockery. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame in July, transplanting seedlings into small pots in Aug., keeping them in cold frame till planting time.

Cat-o'-nine-tails (*Typha latifolia*)—see *Typha*.

Cat Tree (*Euonymus europæus*)—see *Euonymus*.

Cat Whin (*Genista angelica*, *Rosa canina*, *R. spinosissima*, & *Ulex nanus*)—see *Genista*, *Rosa*, & *Ulex*.

Cat's Ear (*Antennaria tomentosa* & *Gnaphalium dioicum*)—see *Antennaria* & *Gnaphalium*.

Cat's Valerian (*Valeriana officinalis*)—see *Valeriana*.

Cattleya.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* Brazil, Guatemala, Trop. America, New Grenada. *Int.* 1815. *Ht.* 9 in. to 2 ft. *Species* cultivated, about 100; hybrids & varieties numerous. *Flowers*, purple, violet, rose, crimson, yellow, buff, white; all the year round. *Compost*, two parts coarse fibry peat, one part chopped living sphagnum moss, charcoal & sand. *Position*, well drained pots, hanging baskets, blocks. *Pot*, Feb. or Mar. Keep plants well above rim of pot. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. Syringes freely in sum. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Caucasian Catch-fly (*Silene caucasica*)—see *Silene*.

Caucasian Comfrey (*Symphytum caucasicum*)—see *Symphytum*.

Caucasian Iris (*Iris caucasica*)—see *Iris*.

Caucasian Lily (*Lilium monadelphum*)—see *Lilium*.

Caucasian Primrose (*Primula amœna*)—see *Primula*.
Caucasian Scarlet Poppy (*Papaver umbrosum*)—see *Papaver*.
Caucasian Walnut-tree (*Juglans pterocarpa*)—see *Juglans*.
Cauliflower (*Brassica oleracea* var. *Botrytis cauliflora*)—see *Brassica*.
Caulophyllum (Pappose-root, Squaw-root).—*Ord.* Berberidaceæ.
 Hardy tuberous-rooted perennial. *Nat.* N. America. *Int.* 1755. *Ht.* 12 in.
Species cultivated, 1. *Flowers*, yellow; *Ap.* Berries, blue; *autn.* *Soil*, ordinary. *Position*, shady. *Plant*, Nov. *Propagate* by division of roots Mar. or Nov.

Cayenne Pepper (*Capsicum annuum* & *C. fastigiatum*)—see *Capsicum*.
Ceanothus (Blue Bush, Blue-flowered Redwort, Californian Lilac, New Jersey Tea-plant, Wild Snowball-tree).—*Ord.* Rhamnaceæ. Hardy & half-hardy flowering shrubs. *Nat.* N. America, California, Mexico. *Int.* 1713. *Ht.* 1 to 6 ft. *Species* cultivated, 8. *Flowers*, blue, white; May to July. *Soil*, light, ordinary. *Position*, against south or west walls or fences outdoors; in pots in cool greenhouse. *Plant*, Oct. to Mar. *Pot*, Oct. *Prune* weak shoots away entirely in Mar. *Water* moderately in pots in winter, freely in sum. *Propagate* by cuttings 3 in. long inserted in pots of sandy soil in cold frame, cool greenhouse, or window in Oct.; layering strong shoots in Sept., Oct., & Nov.

Cedronella (Common Balm of Gilead, Heart leaved Balm of Gilead).—*Ord.* Labiatae. Hardy herbaceous perennials & half-hardy shrubs. *Nat.* Canary Islands, United States. *Int.* 1697. *Ht.* 4 in. to 3 ft. *Species* cultivated, 2. *Flowers*, purple, white; May to July. *Leaves*, fragrant. *Hardy species*: *Soil*, light, rich. *Position*, sunny border or rockery, dryish. *Plant*, Oct. to Ap. *Half-hardy species*: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Pot*, Mar. *Position*, pots in sunny greenhouse. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Water* moderately in autn. & winter, freely other times. *Propagate* hardy species by division of roots in Mar.; half-hardy species by cuttings of young shoots inserted in pots of sandy soil in temp. 75° in Mar., Ap., or May.

Cedrus (African, Mount Atlas, & Silver Cedar, Cedar of Lebanon, Deodar, East Indian Cedar, Fountain-tree).—*Ord.* Coniferae. Hardy evergreen trees. *Orn.* foliage. *Nat.* Algeria, Himalayas, Mount Lebanon. *Int.* 1676. *Ht.* 50 to 200 ft. *Species* cultivated, 3; varieties several. Wood of Cedar of Lebanon used in ancient times as incense. Oldest cedar in England at Brethby Park, Derbyshire; planted in 1676. Cones not produced by *Cedrus Libani* until tree is 40 to 100 years old. *Soil*, rich, deep, sandy. *Position*, well drained, elevated away from sea coast. *Plant*, Sept. to Nov., or Mar. to May. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of light soil in cold frame in Ap., transplanting seedlings outdoors following spring.

Celastrus (Staff tree, Climbing Bitter sweet, Staff-vine, Wax-work).—*Ord.* Celastraceæ. Greenhouse evergreen & hardy deciduous climbing shrubs. *Nat.* Cape of Good Hope, N. America. *Int.* 1722. *Ht.* 1 to 10 ft. *Species* cultivated, 2. *Flowers*, white, yellow; Ap. to Sept. *Greenhouse species*: *Compost*, equal parts peat, loam & sand. *Pot*, Mar. *Position*, sunny greenhouse. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Hardy species*: *Soil*, ordinary. *Position*, walls, fences, & arbours. *Plant*, Oct. to Mar. *Prune* away weak shoots & tips of main shoots in Feb. *Propagate* by layers of young shoots in Sept., Oct., & Nov.

Celeriac (*Apium graveolens rapaceum*)—see *Apium*.

Celery (*Apium graveolens*).—*Ord.* Umbelliferae. Hardy esculent vegetable. Biennial. *Nat.* Britain. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, white; July. Blanched leaf-stalks used as salad; leaves & roots for flavouring soups. *Culture*: *Soil*, ordinary, well enriched with cow, pig, or horse manure. *Position*, moist, in trenches running north & south, 4 ft. apart, 15 in.

wide, & 9 in. deep for single rows, or 18 in. wide for double rows. Put 3 in. manure in bottom & 2 in. top soil on this. Plant out first week in June for early crop; end of June for main crop. Distance apart for plants, 8 in. for single row; 9 in. apart in row & 6 in. between rows for double rows. Earth up gradually from Sept to Nov. in fine weather only. Sow seeds $\frac{1}{16}$ in. deep in light soil in temp. 65° to 75° in Feb. & Mar. for early crop; in Mar. in similar temp. for main crop, or in cold frame in Ap. Seedlings in first two cases to be transplanted 2 in. apart in light soil in boxes, kept in temp. 55° to 65° for few weeks, then planted 6 in. apart in shady bed outdoors till required for planting in trenches. Water liberally until earthed up to ensure crisp, solid hearts. Liquid manure apply once a week from planting till earthing up. Guano at rate of 1 oz. to gallon of water most suitable stimulant. Plants for seed bearing not to be earthed up; protect them in severe weather; transplant following spring; gather seed in Sept. Turnip-rooted Celery: Soil, rich, light. Position, sunny level border. Plant in June 1 ft. apart in rows 18 in. asunder. Keep all side shoots removed. Draw little mould around base of each in Aug. Water freely in dry weather. Lift roots in Oct. & store them in sand in shed till required for use. Sow & treat seedlings as advised for ordinary celery.

Celestial Rose (*Rosa alba*)—see *Rosa*.

Celosia (Cockscomb).—*Ord.* Amarantaceæ. Greenhouse annuals. *Nat.* Asia, Java. *Int.* 1570. *Ht.* 6 in. to 2 ft. *Species* cultivated, 3; varieties numerous. *Flowers*, red, scarlet, white, orange; June to Nov. *Celosia*: *Compost*, two parts fibry loam, one part leaf-mould & well decayed cow manure & sand. *Position*, warm greenhouse, exposed to light. Sow seeds $\frac{1}{16}$ in. deep in well drained pans of light soil in temp. 75° in Mar. Transplant seedlings 1 in. apart when 1 in. high in light soil in well drained pots & keep in temp. 60° to 75°. When seedlings have formed four leaves place them singly in 3-in. pots, transferring them in June to 5-in. pots. Keep plants near the glass. Water roots moderately. Syringe foliage twice daily. Liquid manure apply when flowers appear. *Sum. temp.*, 55° to 65°. *Cockscombs*: Sow seeds as advised for Celosias. When seedlings appear place them close to glass & keep moderately moist. Transplant, when seedlings have formed three leaves, into 2 in. pots in above compost. Place pots on shelf near glass until "combs" show themselves. Select plants with finest "combs" & place them in 4-in. pots; plunge these to rim on gentle hotbed (temp. 65° to 75°) & keep moderately moist at root. Syringe freely. Transfer plants when pots are full of roots into 5-in. pots & treat as before. Give liquid manure when "combs" are well advanced. Good specimen of "comb" should measure 9 to 12 in. long, 3 to 6 in. wide, & plant 6 to 9 in. high.

Celsia (Cretan Mullein).—*Ord.* Scrophulariaceæ. Half-hardy shrubs & hardy biennials. *Nat.* Candia, Crete. *Int.* 1752. *Ht.* 3 to 6 ft. *Species* cultivated, 2. *Flowers*, yellow; July to Sept. *Half-hardy species*: *Compost*, equal parts loam, leaf-mould & sand. *Position*, pots in unheated greenhouse or against south walls in S. of England. Pot or plant, Mar. Water moderately in winter, freely other times. *Hardy species*: *Soil*, ordinary. *Position*, sunny border. Plant, Mar. or Ap. Propagate half-hardy species by cuttings, 3 in. long, of young shoots, inserted in well drained pots of sandy soil in cold frame or greenhouse in Ap., May, or June, or by seeds sown $\frac{1}{16}$ in. deep in light sandy soil in similar position; hardy species by seed sown $\frac{1}{16}$ in. deep in sunny place outdoors in Ap. or Aug.

Centaurea (Babylonian Centaury, Blue Cornflower, Bluebottle, Mealy Centaury, Purple, Red & Yellow Sweet Sultan, Mountain Centaury).—*Ord.* Compositæ. Hardy & half-hardy annuals & perennials. *Nat.* N. America, S. Europe, Caucasus, Britain, Persia, Candia, Cashmere, Levant. *Int.* (foreign species) 1696. *Ht.* 1 to 3 ft. *Species* cultivated, 12. *Flowers*, blue, yellow, purple, red, rose, white; July to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. Plant perennial kinds Oct. to Ap. Variegated species sow in pots in greenhouse in winter & plant out in sum. Propagate

Sweet Sultans & Cornflowers by seeds sown $\frac{1}{2}$ in. deep where plants are to flower in Ap.; variegated kinds by cuttings of side shoots inserted in 2-in. pots of sandy soil in Sept., plunging pots to rim in cold frame, shading cuttings from sun, & watering moderately; perennials by division in Mar.; tender annuals, biennials, & perennials by seeds sown $\frac{1}{8}$ in. deep in light soil in temp. 65° in Mar.; hardy perennials, sown $\frac{1}{2}$ in. deep outdoors in Ap., transplanting seedlings in June.

Centradenia.—*Ord.* Melastomaceæ. Stove flowering shrubs. Evergreen. *Nat.* Mexico. *Int.* 1810. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, pink; Sept. to Nov. *Compost*, two parts peat, one part loam & sand. *Position*, sunny. *Pot*, Feb. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Water* moderately Sept. to Mar., freely afterwards. *Propagate* by cuttings of side shoots 2 or 3 in. long inserted in pots of sandy peat under bell-glass in temp. 85° in Feb. & Mar.

Centranthus (Fox's brush, Red Valerian, Spur Valerian, German Lilac).—*Ord.* Valerianaceæ. Hardy herbaceous perennials. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1583. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, red, rosy, carmine, white; May to Sept. *Soil*, ordinary. *Position*, old walls, sunny rockeries, borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° in Mar., transplanting seedlings outdoors in May; or in sunny positions outdoors in Ap. or June, transplanting seedlings in May or Aug.

Centropogon.—*Ord.* Campanulaceæ. Stove herbaceous perennial. *Nat.* Trop. America. *Int.* 1786. *Ht.* 2 ft. *Species* cultivated, 1; hybrid, 1. *Flowers*, rose; Oct. to Mar. *Compost*, equal parts loam, peat, leaf-mould & a little sand. *Pot*, Mar. *Position*, stove Sept. to June; June to Sept. sunny frame outdoors. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to June 60° to 75°. *Water* moderately Sept. to Feb., freely afterwards. *Prune* shoots close to soil in Feb. when repotting. *Propagate* by cuttings of young shoots 3 in. long, removed with a portion of stem attached, & inserted in light sandy soil in well drained pots under bell-glass in temp. 60° to 70°.

Century Plant (*Agave americana*)—see Agave.

Cephalanthera (White Helleborine).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* England. *Ht.* 6 to 24 in. *Species* cultivated, 3. *Flowers*, white, rose; May to July. *Soil*, chalky loam. *Position*, open & well drained border. *Plant*, Sept. & Oct. *Propagate* by division of roots in Sept.

Cephalanthus (Button bush, Globe-bush, Little Snow-balls, Snowy Globe-flowers).—*Ord.* Rubiaceæ. Hardy deciduous shrub. Orn. foliage. *Nat.* N. America. *Int.* 1735. *Ht.* 3 to 7 ft. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, sandy peat. *Position*, open shrubberies. *Plant*, Oct. or Nov. *Propagate* by layers of shoots in Sept. or Oct.

Cephalaria.—*Ord.* Dipsacæ. Hardy herbaceous perennial. *Nat.* Siberia. *Int.* 1759. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Soil*, ordinary. *Position*, shrubby borders or woods. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Ap., transplanting seedlings in May.

Cephalotus (Australian Pitcher-plant).—*Ord.* Saxifragaceæ. Green-house herbaceous perennial. *Nat.* W. Australia. *Int.* 1822. *Species* cultivated, 1. *Ht.* 2 to 4 in. *Flowers*, white. *Pitchers*, 1 to 3 in. long, dark green, purple, & pink. *Compost*, equal parts sphagnum moss, fibry peat & silver sand. *Position*, pots or pans, well drained & covered with bell-glass; shady cool greenhouse or window. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Oct. 50° to 55°. *Water* moderately Sept. to Ap., freely afterwards. *Propagate* by division of roots in Mar.

Cephalotaxus (Cluster-flowered Yew).—*Ord.* Coniferæ. Hardy conifers. Orn. foliage. Evergreen. *Nat.* Japan, China. *Int.* 1837. *Ht.* 6 to 8 ft. *Species* cultivated, 3. *Leaves* similar to those of Yew. *Soil*, ordi.

nary. *Position*, sheltered shrubberies or lawns. *Plant*, Sept. to Nov. or Mar. to May. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in cold frame in Sept. or Mar., transplanting seedlings outdoors a year after; cuttings of shoots 3 in. long inserted in sandy soil in shady cold frame, or under bell-glass or handlight outdoors.

Cerastium (Mouse-ear Chick-weed, Snow in Summer, Snow-plant, Jerusalem Star).—*Ord.* Caryophyllaceæ. Hardy perennials. Evergreen & deciduous. *Nat.* Britain, Tauria, E. Europe. *Int.* (foreign species) 1648. *Ht.* 2 to 6 in. *Species* cultivated, 4. *Flowers*, white; May to Aug. *Soil*, ordinary. *Position*, dryish borders, rockeries & edgings to flower beds. *Plant*, Mar. or Ap. *Propagate* by division of plants in Mar. or Ap.; cuttings of shoots 3 in. long inserted in ordinary soil in shady position outdoors in June or July; seeds sown $\frac{1}{6}$ in. deep in shady position outdoors in Ap., transplanting seedlings in June or July.

Cerasus (Cherry, Double Cherry, Choke Cherry, Common Laurel, Cherry Laurel, Portugal Laurel).—*Ord.* Rosaceæ. Hardy deciduous & evergreen trees & shrubs. *Nat.* England, Europe, Levant, N. America, Portugal, W. Indies, China, Jamaica. *Int.* (foreign species) 1597. *Ht.* 2 to 40 ft. *Species* cultivated, 20. *Flowers*, white; Ap. to June. *Fruit*, red, white, black; ripe June to Sept. *Common, Cherry, & Portugal Laurels*: *Soil*, ordinary. *Position*, sunny or shady shrubberies. *Plant*, Sept. to Nov., Mar. to May. *Prune* in Ap. *Flowering Cherries*: *Soil*, ordinary. *Position*, open shrubberies. *Plant*, Oct. to Feb. *Prune* away dead or weak shoots & shorten slightly vigorous ones in Jan. or Feb. *Double Cherry* useful for growing in pots for flowering in cold greenhouse in spring. *Pot* in ordinary good mould & plunge pot to rim outdoors from June to Feb., remainder of year keep in greenhouse. *Edible Cherry*: See Cherry. *Propagate* by sowing stones 6 in. deep outdoors as soon as fruit is ripe; cuttings of evergreens 6 in. long inserted in cold frame in Sept., of deciduous kinds, similar length, inserted in shady place outdoors in Oct., transplanting them following year; grafting on Wild Cherry in Mar.; budding on same stock in July.

Ceratiola (Sandhill Rosemary).—*Ord.* Empetraceæ. Half-hardy evergreen shrub. *Nat.* Carolina. *Int.* 1826. *Ht.* 1 to 2 ft. *Flowers*, brown; June to Aug. *Species* cultivated, 1. *Soil*, two parts sandy peat & loam. *Position*, moist, shady, sheltered. *Plant*, Ap. *Propagate* by cuttings of shoots 3 in. long inserted in well drained pots of sandy peat, under bell-glass, in cold frame in June, July, or Aug. *Protection* required in severe weather.

Ceratonia (Carob-bean, Locust-tree, St. John's Bread tree).—*Ord.* Leguminosæ. Hardy evergreen tree. *Nat.* S. Europe. *Int.* 1570. *Species* cultivated, 1. *Ht.* 30 to 50 ft. *Flowers*, red; Sept. *Soil*, ordinary. *Position*, against south walls; suitable for S. & W. of England only. *Plant*, Sept. to Nov. or Mar. to May. *Propagate* by seeds sown 1 in. deep in pots of sandy soil in temp. 85° in Mar., transplanting seedlings outdoors in June; cuttings of firm shoots 4 in. long inserted in sandy soil under bell-glass in cold frame or greenhouse in Aug. or Sept.

Ceratopteris (Floating Stag's-horn Fern, Pod Fern).—*Ord.* Filices. Stove water floating fern. Annual. *Nat.* Trop. America. *Int.*, date unknown. *Species* cultivated, 1. *Compost*, equal parts loam & leaf-mould. *Position*, in pots or pans submerged to rim in tank of water. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown in Feb. on surface of compost in pan in water as above; pegging old fronds to surface of soil from which young plants will grow.

Ceratozamia.—*Ord.* Cycadaceæ. Stove plants. Orn. foliage. *Nat.* Mexico. *Int.* 1879. *Ht.* 3 to 5 ft. *Leaves* finely divided, deep green. *Compost*, two parts loam, one part leaf-mould. *Pot*, Mar. *Position*, shady, moist. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Water* moderately in winter, freely other times; moist atmosphere essential. *Propagate* by seeds

sown 1 in. deep in light soil in temp. 85° in spring; suckers or division of plant in Mar.

Cercis (American Judas-tree, Californian Judas-tree, Common Judas-tree, Love-tree, Red-bud).—*Ord.* Leguminosæ. Hardy trees. Deciduous. *Nat.* S. Europe, Canada, China. *Int.* 1596. *Ht.* 12 to 25 ft. *Species* cultivated, 3. *Flowers*, purple, pink, red; May & June. *Soil*, rich, deep, sandy. *Position*, warm sheltered shrubberies; N. of England against south wall. *Plant*, Oct. to Mar. *Prune* away old branches in Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in temp. 65° to 65° in Mar., transplanting seedlings outdoors in June, or by layers of strong shoots in Sept. or Oct.

Cereus (Torch Thistle, Night-flowering Cereus, Strawberry Pear).—*Ord.* Cactacæ. Greenhouse plants with fleshy, spiny stems, no leaves. *Nat.* Brazil, Mexico, Peru, S. America. *Int.* 1690. *Ht.* 6 in. to 10 ft. *Species* cultivated, 15. *Flowers*, white, scarlet, orange, pink, red; Mar. to Aug. *Compost*, two parts fibry loam, one part coarse sand & pounded brick rubbish. *Position*, well drained pots in sunny greenhouses or windows. *Pot* every three or four years, in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kind in Ap.

Cerithe (Honeywort, Wax-plant).—*Ord.* Boraginacæ. Hardy annuals & perennial. *Nat.* S. & E. Europe, Greece. *Int.* 1570. *Ht.* 1 to 2 ft. *Species* cultivated, annuals 6, perennial 1. *Flowers*, yellow, purple, violet, brown; June to Sept. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant* perennial species Oct. or Ap. *Propagate* annuals by seeds sown $\frac{1}{4}$ in. deep in Ap. where plants are to flower, or in boxes of light sandy soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; thin outdoor-sown seedlings to 2 in. apart; perennials by seeds similar to annuals & by division of roots in Ap.

Cestrum (Bastard Jasmine, Night-blooming Jasmine).—*Ord.* Solanacæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Chili, Mexico, Guatemala. *Int.* 1787. *Ht.* 5 to 10 ft. *Species* cultivated, 6. *Flowers*, red, crimson, rose, purple, orange; Feb. to Aug. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots or beds with shoots trained on wall, pillars, or roof of greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 60°. *Water* moderately in winter, freely other times. *Propagate* by cuttings of side shoots 3 or 4 in. long, removed with portion of old stem attached, inserted in well drained pots of sandy soil in temp. 65° to 75° in July, Aug., or Sept.

Ceterach (Scale Fern).—*Ord.* Filicæ. Hardy fern. Evergreen. *Nat.* Britain. *Ht.* 2 to 6 in. *Species* cultivated, 1. *Compost*, sandy peat, pounded mortar, loam & sand. *Position*, chinks, crevices of exposed sunny walls. *Plant*, Ap. *Propagate* by spores similar to *Adiantum*; division of plants in Ap.

Chænostoma.—*Ord.* Scrophulariacæ. Half-hardy herbs & shrubs. *Nat.* S. Africa. *Int.* 1816. *Ht.* 4 in. to 2 ft. *Species* cultivated, 5. *Soil*, ordinary. *Position*, sunny beds or borders outdoors May to Oct., greenhouse or frame in winter. *Plant* outdoors in May. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 65° to 70° in Mar.; cuttings inserted in well drained pots of sandy soil in greenhouse or cold frame in Sept.

Chærophyllum (Bulbous-rooted Chervil).—*Ord.* Umbelliferæ. Hardy esculent vegetable. *Nat.* Europe. *Int.* 1726. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, white; June. *Roots* carrot-like, yellowish white, sweet; cooked & served as carrots. *Soil*, ordinary. *Position*, sunny beds outdoors. *Propagate* by seeds sown 1 in. deep in drills 1 ft. apart in Aug., Sept. & Oct. *Thin* out

seedlings to 8 in. apart in May. Lift roots in Aug. & store them in dry, dark places until required for use.

Chain Fern (*Woodwardia radicans*)—see Woodwardia.

Chalice Flower (*Narcissus pseudo-narcissus*)—see Narcissus.

Chamæbatia.—Ord. Rosaceæ. Half-hardy shrub. Evergreen. *Nat.* Sierra Nevada. *Int.* 1859. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white; *sum.* *Compost*, two parts loam, one part peat & sand. *Position*, pots in cool greenhouse, or sunny rockeries outdoors S. of England. *Pot*, Mar. *Plant*, Ap. *Water* moderately in winter, freely in *sum.* in pots. *Propagate* by cuttings inserted in sandy soil in cold frame in July or Aug.

Chamædorea.—Ord. Palmaceæ. Stove palms. *Nat.* New Grenada, Mexico, S. America, Trop. America. *Int.* 1846. *Ht.* 1 to 10 ft. *Species* cultivated, 16. *Compost*, two parts peat, one part loam & sand. *Position*, shady part of stove in pots or tubs. *Pot*, Mar. *Water* moderately Sept. to Mar., abundantly afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown 1 in. deep in above compost in pots, in temp. 85° in Mar.

Chamæpeuce (The Fish Bone Thistle, Herrin Bone Thistle).—Ord. Compositæ. Half-hardy herbaceous perennials. Orn. foliage. *Nat.* S. Europe, Syria. *Int.* 1714. *Ht.* 2 to 3 ft. *Species* cultivated, 2. *Flowers*, purple; June to Aug. *Leaves*, green, variegated white. *Soil*, ordinary. *Position*, pots in cool greenhouse, or ornamental beds outdoors in *sum.* *Plant*, May or June. Cut off flower heads directly they appear if handsome foliage is desired. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. of 60° to 70° in Feb., or in Sept. in similar temp., keeping seedlings in greenhouse during winter.

Chamærops (Fan Palm, African Hair Palm, European Palm).—Ord. Palmaceæ. Greenhouse & half-hardy palms. *Nat.* S. Europe, N. Africa. *Int.* 1731. *Ht.* 4 to 10 ft. *Species* cultivated, 2. *Leaves*, fan-shaped, green. *Compost*, two parts rich loam, one part decayed leaf-mould & sand. *Position*, well drained pots in greenhouse or sheltered well drained beds outdoors in S. of England. *Pot*, Mar. *Plant*, Ap. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Water* moderately in winter, freely in *sum.* *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed from parent plant in Ap. or Aug.

Chamomile Oil-plant (*Anthemis nobilis*)—see Anthemis.

Chandelier Flower (*Brunsvigia Josephinæ*)—see Brunsvigia.

Chandelier Tree (*Pandanus candelabrum*)—see Pandanus.

Changeable Primrose (*Primula commutata*)—see Primula.

Chaplet Flower (*Stephanotis floribunda*)—see Stephanotis.

Charity (*Polemonium cæruleum*)—see Polemonium.

Charles X. Lilac (*Syringa vulgaris* var. *grandiflora*)—see Syringa.

Chaste Tree (*Vitex Agnus-castus*)—see Vitex.

Cheddar Pink (*Dianthus cæsius*)—see Dianthus.

Cheilanthes (Californian Lace Fern, Lip Fern).—Ord. Filices. Stove & greenhouse ferns. *Nat.* Australia, America, California, N. India, Cape of Good Hope, Mexico. *Int.* 1775. *Ht.* 6 to 12 in. *Species* cultivated, 20. *Compost*, two parts peat, one part loam & silver sand. *Position*, pots in shade. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores similar to *Adiantum*.

Cheiranthus (Gilliflower, Wallflower, Bleeding Heart).—Ord. Cruciferae. Hardy biennials or perennials. *Nat.* Europe, Madeira, California. *Int.* 1573. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3; varieties numerous. *Flowers*, single & double, various colours, fragrant; Mar. to July. *Soil*, rich ordinary.

Position, old walls, beds, borders, pots. *Wall culture*: Sow seeds in chinks of walls in Mar. or Aug., & cover seeds thinly with fine soil. *Keep* wall watered until seedlings appear. *Plant* seedlings in chinks in Ap. or Aug. *Bed & border culture*: Sow seeds $\frac{1}{2}$ in. deep in sunny place outdoors in Ap. or May. *Transplant* seedlings in June or July 12 in. apart, also in permanent position in Sept. & Oct. *Firm* ground essential for final planting. *Pot culture*: Sow seeds outdoors in Ap. or May. *Transplant* seedlings 12 in. apart in June or July. *Lift* plants in Sept. & put in ordinary mould in pots. *Keep* plants in cold frame till flower buds show, then remove to window or greenhouse. *Water* moderately. *Propagate* double or perennial kinds by cuttings of side shoots inserted in shady border in Aug. or Sept., or in pots or boxes of sandy soil in cold frame in Aug.

Chelidonium (Celandine, Swallow-wort).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* Britain. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, yellow; Ap. to Aug. *Soil*, ordinary. *Position*, damp shady borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shade outdoors in Ap.; division of roots in Ap.

Chelone (Bellamy, Turtle Head, White Shell-flower, Turtle Bloom). *Ord.* Scrophulariaceæ. Hardy herbaceous perennials. *Nat.* N. Carolina, N. America. *Int.* 1752. *Ht.* 1 to 3 ft. *Flowers*, purple, rose; June to Oct. *Soil*, rich, deep. *Position*, open borders. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 55° to 65° in Mar., or similar depth in soil in cold frame in Ap., transplanting seedlings outdoors in May & June; cuttings inserted in sandy soil in cold frame in June & July; division of plants in Aug. & Sept.

Chenopodium (All-Good, Good King Henry, Wild Spinach).—*Ord.* Chenopodiaceæ. Hardy perennial; esculent vegetable. *Nat.* Britain. *Ht.* 12 in. *Species* cultivated, 1. *Soil*, good, well trenched & liberally manured. *Position*, dryish, sunny. Sow seeds 1 in. deep in drills 12 in. apart in Ap. *Thin* seedlings out to 9 in. apart in May. *Cover* bed in Oct. with thin layer of manure. *Gather* young shoots in Ap. as substitute for asparagus; leaves in May & June in lieu of spinach. *Renew* beds every 3 or 4 years.

Chequered Daffodil (*Fritillaria meleagris*)—see *Fritillaria*.

Chequered Lily (*Fritillaria meleagris*)—see *Fritillaria*.

Chequer Tree (*Pyrus torminalis*)—see *Pyrus*.

Cherokee Rose (*Rosa laxigata*)—see *Rosa*.

Cherry (*Cerasus caproniana & avium*).—*Ord.* Rosaceæ. *Nat.* England, Europe. *Species* cultivated, nearly 100. *Flowers*, white; Mar. *Soil*, rich, sandy; stiff or gravelly unsuitable. *Position*, standards, pyramids, & brushes open & sunny; May Duke & early kinds on south & west walls or fences; Bigarreau & Morello on east or north walls. *Plant* standards 25 ft. apart; pyramids, 15 ft.; horizontal or fan-trained, 15 ft.; bush-trained, 5 to 8 ft.; cordons, 18 in. *Time to plant*, Oct. to Feb. *Depth* for roots, 6 in. *Stocks* for standard trees, seedling Duke or Morello; for dwarf trees, Mahaleb Cherry (*Cerasus Mahaleb*). *Mode of bearing*: Morello bears fruit along full length of shoot of previous year's growth; other kinds at base of shoots only, called "spurs." *Pruning*: Standards, simply remove branches when too thick; pyramids & bushes, cut back all shoots to 3 in. in June, except those required to form branches, which leave 6 or 8 in.; cordons, cut all shoots except leading one similarly; horizontal & fan-trained, cut back side shoots to 3 in., leading ones to 6 in. in June; Morello, remove old or weak shoots only in Dec. *Winter pruning* consists of removal of dead or over-crowded shoots & cutting back those omitted in sum. *Protect* early cherries by nets or tiffany. *Pot culture*: Plant in 10 or 12 in. pots in Oct. *Compost*, two parts turfy loam, one part decayed manure. *Place* trees in sheltered position outdoors till Jan., then remove them to greenhouse or vinery. *Temp.*, Jan. to Mar. 45° to 60°; Mar. to June 55° to 65°. *Water* moderately. *Ventilate*

moderately before & after flowering, freely when in flower. *Propagate* by sowing stones 2 in. deep outdoors in July or Aug.; budding choice varieties on stocks named above in July; grafting in Mar.

Cherry Apple (*Pyrus baccata*)—see *Pyrus*.

Cherry Bay (*Cerasus lusitanica*)—see *Cerasus*.

Cherry-Laurel Oil-plant (*Cerasus Lauro-cerasus*)—see *Cerasus*.

Cherry Pie-flower (*Heliotropium peruvianum*)—see *Heliotropium*.

Cherry Plum-tree (*Prunus Myrobalana*)—see *Prunus*.

Cherry Tomato-plant (*Solanum lycopersicum* var. *cerasiforme*)—see *Tomato*.

Chervil (*Anthriscus cerefolium*).—*Ord.* Umbelliferae. Hardy annual herb used for garnishing & flavouring. *Nat.* Europe. *Int.* 1653. *Ht.* 6 in. *Varieties*, 2. *Soil*, ordinary. *Position*, shady in sum., south border in winter. *Sow* seeds broadcast $\frac{1}{2}$ in. deep, or similar depth in drills 6 in. apart in Mar. or Oct.

Chichester Elm (*Ulmus montana* var. *cebennensis*)—see *Ulmus*.

Chicory (*Cichorium intybus*).—*Ord.* Compositae. Hardy perennial; esculent vegetable. *Nat.* Britain. *Species* cultivated, 1; variety 1. *Flowers*, blue; July to Sept. *Ht.* 2 ft. 6 in. *Roots* used when dry for mixing with coffee; leaves, when forced, for salad. *Soil*, rich light. *Position*, open, away from trees. *Sow* seeds $\frac{1}{2}$ in. deep in drills 15 in. asunder first week in May. *Thin* seedlings when an inch to 8 in. apart in row. No liquid or artificial manures required. *Lift* roots in Nov. & store them in dry soil or sand in outhouse. *Force* leaves for salad by placing roots close together in large pots or deep box, using ordinary soil. Put pots or boxes in temp. 55° to 65°, & keep quite dark. *Gather* blanched leaves when three to six inches long.

Chignon Fern (*Cibotium regale*)—see *Cibotium*.

Chilian Arbor-vitæ (*Libocedrus chilensis*)—see *Libocedrus*.

Chilian Arrow-head (*Sagittaria montevidensis*)—see *Sagittaria*.

Chilian Pine-tree (*Araucaria imbricata*)—see *Araucaria*.

Chili Jasmine (*Mandevilla suaveolens*)—see *Mandevilla*.

Chili Nettle (*Loasa aurantiaca*)—see *Loasa*.

Chilies (*Capsicum annum*)—see *Capsicum*.

Chili Pepper (*Capsicum annum*)—see *Capsicum*.

Chimaphila (Spotted Winter Green, Prince's Pine, Pipsissewa, Ground Holly).—*Ord.* Ericaceae. Hardy dwarf plants. Evergreen. *Nat.* N. America. *Int.* 1752. *Ht.* 3 to 6 in. *Species* cultivated, 2. *Flowers*, white, red; June & July. *Compost*, two parts leaf-mould, one part sand. *Position*, shady rockery outdoors. *Plant*, Ap. *Propagate* by division of plants in Ap.

Chimney Plant (*Campanula pyramidalis*)—see *Campanula*.

Chimonanthus (Japan Allspice).—*Ord.* Calycanthaceae. Hardy shrub. Deciduous. *Nat.* Japan. *Int.* 1766. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, white, yellow, purple, fragrant; Nov. to Feb. *Soil*, deep, rich, sandy. *Position*, against south or west walls. *Plant*, Feb. *Prune* in Feb., cutting away all shoots that have flowered to within 1 in. of base, except those required to furnish plants with branches. *Propagate* by layering shoots in Sept. or Oct.

China Aster (*Callistephus hortense*)—see *Callistephus*.

China Creeper (*Quamoclit vulgaris*)—see *Quamoclit*.

China Red Rose (*Rosa semperflorens*)—see *Rosa*.

China Rose (*Rosa indica*)—see *Rosa*.

Chinese Apple (*Pyrus spectabilis*)—see *Pyrus*.

Chinese Arbor-vitæ (*Biota orientalis*)—see *Biota*.

Chinese Arrow-root-plant (*Nelumbium speciosum*)—see *Nelumbium*.

- Chinese Azalea (*Azalea sinensis*)—see Azalea.
 Chinese Box-tree (*Buxus chinensis*)—see Buxus.
 Chinese Cherry (*Cerasus serrulata*)—see Cerasus.
 Chinese Crab (*Pyrus spectabilis*)—see Pyrus.
 Chinese Dwarf Privet (*Ligustrum sinense nanum*)—see Ligustrum.
 Chinese Elm (*Ulmus campestris* var. *chinensis*)—see Ulmus.
 Chinese Fringed Primrose (*Primula sinensis fimbriata*)—see Primula.
 Chinese Holly (*Ilex chinensis*)—see Ilex.
 Chinese Honey-Locust-tree (*Gleditsia sinensis*)—see Gleditschia.
 Chinese Honeysuckle (*Lonicera flexuosa*)—see Lonicera.
 Chinese Ivy (*Rhynchospermum jasminoides*)—see Rhynchospermum.
 Chinese Jasmine (*Rhynchospermum jasminoides*)—see Rhynchospermum.
 Chinese Juniper (*Juniperus chinensis*)—see Juniperus.
 Chinese Lace-Bark Pine-tree (*Pinus Bungeana*)—see Pinus.
 Chinese Lilac (*Syringa chinensis*)—see Syringa.
 Chinese Monk's-hood (*Aconitum chinensis*)—see Aconitum.
 Chinese Pine-tree (*Pinus sinensis*)—see Pinus.
 Chinese Pink (*Dianthus chinensis*)—see Dianthus.
 Chinese Pitcher-plant (*Nepenthes distillatoria*)—see Nepenthes.
 Chinese Primrose (*Primula sinensis*)—see Primula.
 Chinese Privet (*Ligustrum sinensis*)—see Ligustrum.
 Chinese Rose Mallow (*Hibiscus rosa-sinensis*)—see Hibiscus.
 Chinese St. John's-wort (*Hypericum chinensis*)—see Hypericum.
 Chinese Tree Pæony (*Pæonia moutan*)—see Pæonia.
 Chinese Tulip-tree (*Magnolia fuscata*)—see Magnolia.
 Chinese Water Lily (*Nelumbium speciosum* & *Nymphaea pycnæa*)—see Nelumbium & Nymphaea.
 Chinese Wax Privet (*Ligustrum lucidum*)—see Ligustrum.
 Chinese Wistaria (*Wistaria sinensis*)—see Wistaria.
 Chinese Yam (*Dioscorea batatas*)—see Dioscorea.
 Chinese Yew-tree (*Taxus nucifera* & *Podocarpus chinensis*)—see Taxus & Podocarpus.
 Chionanthus (Fringe Tree, Poison Ash, Virginian Snow-flower).—*Ord.* Oleaceæ. Hardy trees & shrubs. Deciduous. *Nat.* China, N. America. *Int.* 1796. *Ht.* 3 to 25 ft. *Species* cultivated, 2. *Flowers*, white, fragrant; May & June. *Soil*, sandy loam. *Position*, moist sheltered shrubbery. *Plant* Oct. to Feb. *C. virginica* suitable for pot culture for spring flowering in heated or cold greenhouses. *Pot*, Nov. *Water* moderately Nov. to Ap., freely afterwards. *Plunge* pot to room outdoors from June to Feb. *Propagate* by seeds sown in sandy soil in cold frame in Ap.; grafting on Ash in Mar.; budding on Ash in July.
 Chionodoxa (Glory of the Snow, Sardinian Snow Glory, Dwarf Snow Glory).—*Ord.* Liliacæ. Hardy deciduous bulbous plants. *Nat.* Crete, Sardinia. *Int.* 1877. *Ht.* 4 to 6 in. *Species* cultivated, 4. *Flowers*, white, blue; Feb. to May. *Soil*, sandy loam. *Position*, sunny rockeries, well drained. *Plant* bulbs 1 in. apart & 3 in. deep in Sept. *Lift* & replant every three years. *Keep* soil moist until foliage dies, then withhold water. *Pot culture*: *Compost*, equal parts peat, loam, leaf-mould & sand. *Pot*, Sept., planting 12 bulbs 1 in. deep in a 3-in. pot, well drained. *Cover* pot with ashes outdoors or in frame until Jan., then remove to window or greenhouse. *Water* moderately Jan. to Ap., freely Ap. to June, none afterwards. *Propagate* by seeds sown ½ in. deep in boxes of light soil in cold frame in Aug.; offsets treated as mature bulbs.
 Chirita.—*Ord.* Gesneriaceæ. Stove herbaceous perennial & evergreen

plants. *Nat.* China, Chiriqui, Ceylon. *Int.* 1840. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, purple, blue, lilac, white; June to Sept. *Compost*, equal parts peat & leaf-mould, half a part fibry loam, & half a part of silver sand & charcoal. *Pot.* Feb. Shake away old soil from roots & put in small pots first, shifting into larger size when plants begin to grow. *Water* moderately at first, increasing supply when plants grow freely; keep nearly dry Oct. to Feb. *Position*, on shelf near glass. *Liquid* or artificial manure may be applied when flower buds appear. *Temp.*, Nov. to Feb. 55° to 65°; Feb. to Nov. 70° to 85°. *Propagate* by seeds sown in well drained pots of above compost in Mar. Cover seeds with sprinkle of sand, place a square of glass over each pot & put latter in temp. 75° to 85°. Keep soil moderately moist. Transplant seedlings when three leaves are formed into small pots & treat as advised for old plants. Can be propagated also by large leaves, cutting their main ribs through & laying undersides on pans of sandy soil in temp. 65° to 75° in sum.

Chionographis.—*Ord.* Liliaceæ. Half-hardy herbaceous perennial. *Nat.* Japan. *Int.* 1880. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; Mar. to May. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, warm, well drained south border outdoors, or pots in cold frame. *Plant*, Oct. or Feb. *Pot.* Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in above compost in a pot, pan, or box, in Mar., in cold frame; division of roots in Sept.

Chives (*Allium schœnoprassum*).—*Ord.* Liliaceæ. Hardy perennial; esculent vegetable. *Nat.* Britain. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, purple; June to Aug. *Leaves* used as substitute for onions in soups & salads. *Soil*, ordinary rich. *Position*, open garden. *Plant* 8 in. apart in Mar. *Renew* bed every third year. *Cut* foliage to ground in Oct. & cover plants with a little soil. *Propagate* by division of roots in Oct. or Mar.

Chlidanthus.—*Ord.* Amaryllidaceæ. Half hardy herbaceous plant. *Nat.* Buenos Ayres. *Int.* 1820. *Ht.* 8 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; May & June. *Compost*, equal parts peat, leaf-mould, loam & silver sand. *Position*, warm, well drained bed or border outdoors. *Plant* bulbs 3 in. deep in Ap. *Lift* bulbs in Oct. & store them in sand in frost-proof place during winter. *Pot culture*: Plant bulbs 1 in. apart & 2 in. deep in above compost in 5 in. pots in Ap. *Water* moderately first, freely when in active growth. *Grow* in cold frame or cool greenhouse. *Withhold* water from roots after Sept. until repotting time. *Propagate* by offsets in Ap.

Chlora (Yellow Centaury, Yellow-wort).—*Ord.* Gentianaceæ. Hardy biennials. *Nat.* Europe. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, golden yellow; June to Aug. *Soil*, heavy loam. *Position*, moist borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shady bed outdoors in July, transplanting seedlings into flowering positions in Oct.

Chlorogalum (Soap Plant).—*Ord.* Liliaceæ. Hardy bulbous plant. *Nat.* California. *Int.* 1819. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white, purple; May to July. *Soil*, light. *Position*, south border, well drained. *Plant* bulbs 4 in. deep and 3 in. apart in Oct. or Mar. *Replant* every three years. *Propagate* by offsets planted similarly to old bulbs; by seeds sown $\frac{1}{2}$ in. deep in well-drained pots of sandy soil in Mar.

Chlorophytum (Club Palm, Gœthe Plant).—*Ord.* Liliaceæ. Greenhouse plants. *Orn.* foliage. *Nat.* Sierre Leone, Cape of Good Hope. *Int.* 1751. *Species* cultivated, 4. *Ht.* 1 to 2 ft. *Flowers*, white; Feb. to Nov. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, variegated & tall kinds in pots; drooping stemmed species in pots or baskets suspended in window or greenhouse. *Pot.* Mar. *Temp.*, Oct to Mar. 45° to 50°; Mar. to Oct. 55° to 65°. *Water* moderately in winter, freely other times. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of light soil in temp. 65° in Mar.; by offshoots inserted singly in small pots under bell-glass in window or greenhouse in Ap.; by division of roots when repotting.

Chocolate-nut-tree (*Theobroma cacao*)—see *Theobroma*.

Choisya (Mexican Orange-flower).—*Ord.* Rutacæ. Hardy flowering shrub. Evergreen. *Nat.* Mexico. *Int.* 1825. *Ht.* 2 to 6 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; May to Aug. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, sheltered shrubberies S. & W. of England & Ireland, against south walls N. of England. *Plant*, Oct. or Mar. *Prune* after flowering, shortening straggling shoots only. *Pot culture*: *Compost* as above. *Pot*, Sept. or Oct. *Water* moderately Sept. to Mar., freely afterwards. *Keep* plants in cool greenhouse Nov. to May, remainder of time outdoors. *Propagate* by cuttings of shoots 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 55° to 65°, Mar. to June.

Choke Cherry (*Prunus virginiana*)—see *Prunus*.

Choke Pear (*Pyrus communis*)—see *Pyrus*.

Choo Tree (*Rosa canina*)—see *Rosa*.

Chorizema.—*Ord.* Leguminosæ. Greenhouse flowering plants. Evergreen. *Nat.* New Holland. *Int.* 1803. *Species* cultivated, 7. *Ht.* 18 in. to 4 ft. *Flowers*, orange, red, yellow, scarlet; Mar. to July. *Compost*, equal parts fibry peat & loam, one-fourth sand. *Position*, pots, or in well drained beds in greenhouses. *Pot*, Mar. or June; firm potting essential. *Prune* straggling shoots slightly after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 60°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy compost in temp. 65° to 70° in Mar.; by cuttings inserted in pots of sandy peat under bell-glass in temp. 65° in sum.

Chriseis of California (*Eschscholtzia californica*)—see *Eschscholtzia*.

Christmas (*Ilex aquifolium*)—see *Ilex*.

Christmas Daisy (*Aster grandiflorus*)—see *Aster*.

Christmas-flowering Iris (*Iris alata*)—see *Iris*.

Christmas Pride (*Ruellia paniculata*)—see *Ruellia*.

Christmas Rose (*Helleborus niger*)—see *Helleborus*.

Christmas Shield Fern (*Aspidium acrostichoides*)—see *Aspidium*.

Christopher (*Actæa spicata* & *Osmunda regalis*)—see *Actæa* & *Osmunda*.

Christ's-Eye (*Inula Oculus-Christi*)—see *Inula*.

Christ's-Hair (*Scolopendrium vulgare*)—see *Scolopendrium*.

Christ's-Thorn (*Cratægus pyracantha*)—see *Cratægus*.

Chrysanthemum (Oxeye Daisy, Crown Daisy, Marsh Oxeye, Corn Marigold, Gowan, Yellow Cornflower, Goldlins, Marsh Fever-few, Midsummer Daisy).—*Ord.* Compositæ. Greenhouse, hardy annual, herbaceous perennial & shrubby plants. *Nat.* China, S. Europe, Britain. *Int.* (foreign species) 1764. *Ht.* 1 to 6 ft. *Species* cultivated, 6; varieties innumerable. *Flowers*, various; chiefly May to Dec. *Culture of annuals* outdoors: *Soil*, ordinary, rich. *Position*, open, sunny. *Plant* seedlings out in May. *Sow* seeds $\frac{1}{2}$ in. deep in boxes of light soil in temp. 65° to 70° in Mar., afterwards planting seedlings out; or similar depth where plants are to flower. *Thin* seedlings to 3 in. apart in June. *Gather* seed in Aug. *Pot culture of annuals*: *Sow* seeds as above. *Transplant* seedlings when 2 in. high at rate of four in a 5-in. pot, or seven in a 6-in. pot. *Compost*, two parts good soil, one part leaf-mould or decayed manure & sand. *Grow* plants in cold frame or greenhouse. *Water* moderately. *Thin* flower buds if fine blooms are wanted. *Give* weak liquid manure when flower buds appear. *Culture of Marguerite*: *Compos.*, equal parts loamy soil & leaf-mould, fourth part silver sand. *Propagate* by cuttings inserted singly, or three in a 4-in. pot, in Ap. *Cover* pot with bell-glass or place in propagator. *Pot* cuttings when rooted in 3-in. pots, shifting them into 6-in. in Aug. *Stand* plants in full sun from July to Sept., place in sold frame from then to Nov., thence into greenhouse heated to temp. 60° to

55°. *Water* moderately. *Give* liquid manure when pot is full of roots. *Thy* plants away when a year old & raise fresh stock from cuttings. *Culture* of ordinary *chrysanthemums*: *Compost*, three parts fibry loam, one horse manure, one decayed tree leaves, one coarse silver sand, quarter part finely ground bones, same of dissolved bones, one part charcoal & wood ashes & little soot. *Pot* first time in 3-in. pots, Mar.; second, in 5 or 6-in., middle of Ap.; third, in 8 or 10-in., middle of June. *Stop* main stems 4 in. from base in Mar. for ensuring bushy plants; those to produce blooms for exhibition leave untouched. *Cut* down plants intended for dwarfs to within 6 in. of pot in May. *Thin* flower buds to one on each shoot when they are size of radish seed. *Stand* plants in full sun May to Sept., then remove to greenhouse. *Water* freely while outdoors, moderately in greenhouse. *Apply* liquid manure when flower buds form & continue till flowers open. *Propagate* by cuttings issuing from roots, inserting these singly in 2-in. pots in temp. 55° to 65° in Jan., Feb. or Mar., or in cold frames in Dec.; by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° in Mar. *After flowering* cut stems down & place plants in cold frame to produce cuttings, after which plant out in garden or discard. *Temp.* for plants whilst in flower, 45° to 50°. *Suitable liquid manures*: N trate of soda, $\frac{1}{2}$ oz. to gall. of water; sulphate of ammoniu, $\frac{1}{2}$ teaspoonful to gall.; guano, $\frac{1}{2}$ oz. to gall.—all three once a week; sheep & cow dung, peck of each & $\frac{1}{2}$ peck of soot to 36 galls. of water, to be applied half diluted once weekly. *Outdoor culture*: *Propagate* by division of plants in Mar. or cuttings as above. *Plant*, Mar. *Water* freely in sun. *Thin* flower buds in July. *Give* liquid manure July to Sept. *Classes*: *Incurved*, petals curving inwards; *reflexed*, petals curving backwards; *Anemone-flowered*, flowers with dense centres & petals fringing their base; *pompones*, flowers small, petals reflexed, fringed or toothed; *Japanese*, flowers large, petals loosely arranged, variously shaped.

Chrysobactron (Hooker's Golden Wand).—*Ord.* Liliacæ. Hardy bulbous perennials. *Nat.* New Zealand. *Ht.* 2 ft. *Int.* 1850. *Species* cultivated, 2. *Flowers*, yellow; May to July. *Compost*, two parts leaf-mould & one part light loam & sand. *Position*, warm well drained border or in pots in cold frame. *Pot* & plant Aug. to Nov. *Water* freely May to Sept.; keep dryish afterwards. *Propagate* by offsets treated as old bulbs.

Chrysocoma (Goldlocks).—*Ord.* Compositæ. Hardy perennial & evergreen. *Nat.* Britain, Cape of Good Hope. *Ht.* 18 in. *Species* cultivated, 2. *Int.* (foreign species) 1731. *Flowers*, yellow; June to Aug. *Soil*, sandy peat. *Position*, sunny well drained border or rockery. *Plant*, Mar. *Propagate* by cuttings of shoots of current year's growth, inserted in sandy peat under bell-glass in temp. 55° in June, July or Aug.

Chrysogonum.—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* United States. *Int.*, date unknown. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Compost*, equal parts loam, peat & leaf-mould. *Position*, open borders. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar.

Chrysopsis (Golden Aster, Maryland Star).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* United States, N. America. *Int.* 1827. *Ht.* 4 in. to 4 ft. *Species* cultivated, 4. *Flowers*, yellow; June to Oct. *Soil*, ordinary. *Position*, shrubberies or wild garden. *Plant*, Oct. or Mar. *Propagate* by division of plant in Mar.

Chrysoplenium (Golden Saxifrage).—*Ord.* Saxifragacæ. Hardy perennial herbs. *Nat.* Britain. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, yellow; Ap. to July. *Soil*, boggy peat. *Position*, damp & shady. *Plant*, Oct. or Mar. *Propagate* by division of plants in Mar.

Chusan Daisy (*Chrysanthemum sinense*)—see *Chrysanthemum*.

Chusan Palm (*Chamærops Fortunei*)—see *Chamærops*.

Chysis.—*Ord.* Orchidacæ. Stove deciduous epiphytal orchids. *Nat.* Guatemala, Mexico, Venezuela. *Int.* 1834. *Ht.* 18 in. *Species* cultivated, 2.

Flowers, yellow, crimson, purple, pink; Ap. to July. *Compost*, equal parts fibry peat, moss & potsherds. *Position*, well drained pots or blocks of wood. *Pot*, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by division of pseudo-bulbs in Feb. or Mar.

Ciboul Onion (*Allium fistulosum*)—see *Allium*.

Cider Tree (*Eucalyptus Gunni*)—see *Eucalyptus*.

Cienkowskia.—*Ord.* Scitammaceæ. Stove herbaceous perennial. *Nat.* Zanzibar. *Int.* 1872. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, rosy purple, fragrant; July to Sept. *Compost*, equal parts fibry loam & peat, with little sand. *Position*, pots in stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Aug., very little afterwards. *Propagate* by division of roots in Feb.

Cimicifuga (Rattle-root, Squaw-root, Snake-root, American Bugbane, Fœtid Bug-bane, Bugwort).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Eastern Siberia, Japan, N. America, Carolina. *Int.* 1737. *Ht.* 2 to 5 ft. *Species* cultivated, 5. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, moist shady borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in cold frame in Sept.; division of roots in Mar.

Cinnamon Fern (*Osmunda cinnamomea*)—see *Osmunda*.

Cinnamon Root (*Inula conyza*)—see *Inula*.

Cinnamon Rose (*Rosa cinnamomea*)—see *Rosa*.

Cineraria (Ragwort).—*Ord.* Compositæ. Greenhouse & hardy herbaceous perennials. Flowering & orn. foliage. *Nat.* E. & S. Europe, Canary Islands, Cape of Good Hope. *Int.* (parent of greenhouse kinds) 1777. *Ht.* 1 to 3 ft. *Species* cultivated, 3; varieties numerous. *Flowers*, various; spring & sum. *Culture of flowering cinerarias*: *Compost*, two parts yellow loam, one part leaf-mould & coarse silver sand. Sow seeds $\frac{1}{4}$ in. deep in well drained pans or pots of above finely sifted compost. Cover top of pot with square of glass, keep soil moist, & shade from sun. Transplant seedlings when three leaves are formed singly in small pots, keep in cold frame & shaded. Shift into $\frac{1}{2}$ -in. pots in July, 6-in. size in Aug. Remove to greenhouse in Oct., near glass. Apply liquid manure twice weekly from Sept. onwards. Fumigate frequently to destroy aphids. *Temp.*, Oct. to time plants have ceased flowering, 45° to 50°. *Culture of orn. foliage kinds*: *Compost*, same as above. *Pot*, Mar. *Plant* outdoors in June. Lift in Sept. *Water* moderately if grown in pots. *Propagate* by cuttings of side shoots inserted in pots of sandy soil in temp. 65° in Mar.; seeds sown $\frac{1}{2}$ in. deep same time & soil, transplanting seedlings into small pots & growing in greenhouse till June. Silver-leaved kind used largely for sum. bedding.

Cirrhopetalum (Medusa's Head Orchid).—*Ord.* Orchidaceæ. Stove epiphytal evergreen orchids. *Nat.* Java, Phillipine Islands, Singapore. *Int.* 1839. *Ht.* 6 in. *Species* cultivated, 3. *Flowers*, red, brown, yellow; Jan. to Nov. *Compost*, equal parts fibrous peat & sphagnum. *Position*, well drained pots, baskets or blocks of wood. *Pot*, Mar. *Water* freely when plants are growing, moderately other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 65° to 75°. *Propagate* by division of pseudo-bulbs in Mar.

Cissus (Kangaroo or Elephant's Vine).—*Ord.* Vitaceæ. Stove orn. climber. *Nat.* Java. *Int.*, date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Leaves*, upper side velvety green, spotted with white; under sides reddish purple. *Compost*, two parts peat, one part leaf-mould & one loam & sand. *Pot*, Feb. or Mar. *Position*, pots, or in well drained beds, shoots trained up roof or on wire trellis. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°; Sept. to Mar. 65° to 75°. *Propagate* by cuttings 2 in. long of young shoots, removed with portion of stem attached, & inserted in 2-in. pot filled with sandy peat in temp. 85° in Ap.

Cistus (Rock Rose, Gum Cistus).—*Ord.* Cistaceæ. Hardy & half-hardy

evergreen shrubs. *Nat.* S. Europe, Crete, Spain, Barbary, Teneriffe. *Int.* 1548. *Ht.* 1 to 4 ft. *Species* cultivated, about 18. *Flowers*, purple, rose, white, yellow; *Ap.* to Aug. *Soil*, good ordinary. *Position*, pots in frame or cold greenhouse, sunny rockeries or against south walls. *Plant*, Mar. *Protect* in severe weather. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in boxes of sandy soil in cold frame or unheated greenhouse in Mar., transplanting seedlings in 'o small pots & planting outdoors in June; by cuttings 4 in. long in pots of sandy soil in Sept. in cold frame or greenhouse.

Citron (*Citrus medica* var. *cedra*)—see Citrus.

Citron-flowered Rhododendron (*Rhododendron citrinum*)—see Rhododendron.

Citron Oil-plant (*Citrus medica*)—see Citrus.

Citron-scented Orchid (*Odontoglossum citrosimum*)—see Odontoglossum.

Citrus (Orange, Lemon, Shaddock, Adam's Apple, Lime, Citron, Forbidden Fruit).—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* Asia, China, Japan, Polynesia. *Int.* 1595. *Species* cultivated, 9. *Ht.* 4 to 20 ft. *Flowers*, white, fragrant; *May* to *July*. *Fruit*: *Sweet Orange*, golden rind, globular; *Lemon*, pale yellow, rind thin, oblong; *Citron*, yellow, thick rind, long, egg-shaped, lump at tip; *Shaddock*, greenish yellow, bitter rind, large, round; *Lime*, greenish yellow, smooth rind, globular, with nipple at top; *Mandarin*, reddish rind, flattened; *Seville*, thin rough rind, globular; *Mahoe Blood*, red rind, dark red pulp, large; *Tangerine*, syn. with Mandarin; *St. Michael's*, red rind, globular, large. *Compost*, two parts good turfy loam, one part dry cowdung, charcoal, crushed bones & ballast. *Pot*, Feb., Mar. or *Ap.* *Position*, pots, tubs, or beds, all to be well drained, in cool or slightly heated greenhouses. *Water* freely Mar. to Oct., moderately afterwards. Apply liquid manure once a week to healthy plants from May to Oct. Syringe trees daily during sum. Stand trees in pots or tubs in sheltered position outdoors June to Sept. *Repotting* should not be done oftener than is actually necessary. *Prune* straggling shoots into shape in Mar. *Temp.*, Sept. to Feb. 45° to 50°; Feb. to Sept. 55° to 65°. *Fruit* formed one year will not ripen till next. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° in Mar. for producing stocks for grafting choice kinds on; by cuttings inserted in small pots of sandy soil in July; layering in Oct.; by budding in Aug.; by grafting in Mar.

City Avena (*Geum urbanum*)—see Geum.

Cladrastis (Yellow-wood Tree).—*Ord.* Leguminosæ. Hardy deciduous shrubs. *Nat.* Amoor, N. America. *Int.* 1812. *Ht.* 6 to 15 ft. *Species* cultivated, 2. *Flowers*, white; *May*. *Soil*, ordinary. *Position*, open shrubberies, or singly on lawns. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in ordinary soil outdoors in Mar.; cuttings of root inserted outdoors in spring.

Clammy Azalea (*Azalea viscosa*)—see Azalea.

Clammy Elm (*Ulmus campestris* var. *viscosa*)—see Ulmus.

Clammy Lavender Cotton (*Santolina viscosa*)—see Santolina.

Clammy Lychnis (*Lychnis viscaria*)—see Lychnis.

Clammy Primrose (*Primula viscosa*)—see Primula.

Clarkia.—*Ord.* Onagraceæ. Hardy annuals. *Nat.* California, N. America. *Int.* 1826. *Ht.* 1 to 3 ft. *Species* cultivated, 2; varieties many. *Flowers*, white, rose, purple, lake; *June* to *Oct.* *Soil*, light, rich. *Position*, sunny borders or beds. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in *Ap.*, *May*, or *June* where plants are required to flower. Thin seedlings to 8 in. apart when 3 in. high.

Clary (*Salvia sclarea*)—see Salvia.

Claytonia (Siberian Purslane, Spring Beauty, Winter Purslane).—*Ord.* Portulacaceæ. Hardy annuals & perennials. *Nat.* Cuba, Mexico, N.

America, Siberia. *Int.* 1768. *Ht.* 3 to 6 in. *Species* cultivated, 1 annual & 2 perennials; latter tuberous-rooted. *Flowers*, white, rose; Mar. to Aug. *Soil*, for annual species, ordinary; for perennials, damp peat or bog. *Position*, rocky for annual species; moist & shady border for perennials. *Plant* perennials in Oct. or Mar. *Propagate* annual species by seeds sown outdoors in Ap.; perennials by seeds similarly, or by offsets in Oct. or Mar.

Clayton's Flowering Fern (*Osmunda Claytoniana*)—see *Osmunda*.

Clematis (Hedge vine, Lady's Bower, Maiden's Honesty, Old Man, Old Man's Beard, Traveller's Joy, Virgin's Bower).—*Ord.* Ranunculaceæ. Hardy, half-hardy, & greenhouse deciduous shrubs & herbaceous perennials. *Nat.* Britain, China, Japan, Minorca, Nepaul, N. America, New Zealand, Portugal, S. Europe, Tartary, Texas, U.S. America. *Int.* (foreign species) 1569. *Ht.* 1 to 30 ft. *Species* cultivated, 31; varieties many. *Flowers*, various; Ap. to Oct. *Culture of hardy species*: *Compost*, equal parts turfy soil (loam), leaf-mould, decayed manure & road grit. *Position*, against walls, trellises, arbours, trunks of trees; in beds, with shoots trained to wire trellis, or allowed to cling naturally to branches. *Plant*, Feb., Mar., or June, each plant having a bed 2 ft. square. *Prune montana, florida, & Jackmanni* types in Feb., cutting the shoots back about two thirds of their length; *lanuginosa & viticella* types in Feb. or Mar., shortening shoots one third only. *Culture of greenhouse species*: *Compost*, two parts loam, one part leaf-mould, decayed manure & river sand. *Position*, pots, tubs, or beds, with shoots trained up roof. *Pot or plant*, June. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Oct. to Mar. 40° to 50°; Mar. to Oct. 55° to 65°. *Prune* as advised for outdoor culture. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in temp. 65° in Mar., transplanting seedlings outdoors in June or July; cuttings of young shoots inserted in sandy soil in temp. 60° to 70° in spring; layering shoots at any period; grafting on roots of common species in spring.

Cleome (Spider flower).—*Ord.* Capparidaceæ. Half-hardy or stove annuals. *Nat.* W. Indies, Mexico. *Int.* 1817. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, rose; July. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, pots in warm greenhouse or sunny beds outdoors. *Plant* outdoors in June. *Water* moderately at all times. *Temp.* for plants in pots, 65° to 75°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 70° in Mar., transplanting seedlings into pots when 1 in. high.

Clerodendron (Glory-tree).—*Ord.* Verbenaceæ. Stove, greenhouse, & hardy deciduous climbing shrubs. *Nat.* Borneo, China, India, Java, Guinea, Trop. Africa. *Int.* 1790. *Ht.* 4 to 10 ft. *Species* cultivated, 18; varieties several. *Flowers*, crimson, white, scarlet; Ap. to Sept. *Compost*, equal parts loam, peat, leaf-mould, decayed manure & silver sand. *Pot*, Feb. *Prune* shoots after flowering to within 2 or 3 in. of their base. *Water* freely Mar. to Sept., inoderately Sept. to Nov., after which keep dry. *Temp.*, Oct. to Feb. 55° to 60°; Feb. to Oct. 65° to 85°. *Plant* hardy species in ordinary soil in shrubbery in Oct. or Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 75° in Mar.; cuttings of stems or shoots 3 in. long, inserted in sandy compost in temp. 70° to 75° in Jan., Feb., or Mar.

Clethra (White Alder-bush, West Indian Wild Pear, Pepper-bush).—*Ord.* Ericaceæ. Greenhouse & hardy deciduous shrubs. *Nat.* Carolina, Georgia, Jamaica, Madeira, U.S. America. *Int.* 1731. *Ht.* 3 to 12 ft. *Species* cultivated, 7. *Flowers*, white, fragrant; June to Oct. *Compost*, two parts loam, one part peat & sand. *Position*, front of shrubberies for hardy species; well drained beds or tubs for greenhouse species. *Pot or plant*, Nov. to Feb. *Water* greenhouse species moderately in winter, freely other times. *Temp.* for latter, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar., or in boxes of light soil in temp. 55° in Feb.; cuttings inserted in sandy soil under bell glass in Oct.; layering in Oct.

Clethra-leaved Loose-strife (*Lysimachia Leschenaultii*)—see *Lysimachia*.

Clianthus (Glory Pea, Glory Vine, Parrot's-bill, Sturt's Desert Pea).—*Ord.* Leguminosæ. Greenhouse climbing shrub & herbaceous perennial. *Nat.* Australia, New Zealand. *Int.* 1832. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, red, black, purple, & scarlet; Mar. to Aug. *Compost*, two parts loam, one part leaf-mould & silver sand. *Position*, pots or beds in greenhouse. *Pot or plant*, Mar. *Prune* in Ap., shortening young shoots to within 2 in. of their base. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* foliage daily Ap. to Aug. *Temp.*, Oct. to Mar. 45° to 50°; Mar. to Oct. 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pot of light soil in temp. 75° in Mar.; cuttings of shoots inserted in sandy soil in temp. 75° to 85° in Mar. or Ap.

Cliff Brake Fern (*Pellæa dena*)—see *Pellæa*.

Cliff Daffodil (*Narcissus rupicola*)—see *Narcissus*.

Climbing Fumitory (*Adlumia cirrhosa*)—see *Adlumia*.

Climbing Groundsel (*Senecio mikanooides*)—see *Senecio*.

Climbing Polypody Fern (*Niphobolus heteractis*)—see *Niphobolus*.

Climbing Shield Fern (*Aspidium capense*)—see *Aspidium*.

Climbing Snake's-tongue Fern (*Lygodium scandens*)—see *Lygodium*.

Clintonia.—*Ord.* Lil'acæ. Hardy herbaceous perennials. *Nat.* California, N. America. *Int.* 1783. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, white, rose yellow; May to July. *Soil*, sandy peat. *Position*, moist shady border. *Plant*, Oct. or Mar. *Propagate* by division of roots in Mar. or Ap.

Clitoria (Butterfly Pea).—*Ord.* Leguminosæ. Stove evergreen flowering climbers. *Nat.* Brazil, India, U.S. America. *Int.* 1739. *Ht.* 5 to 15 ft. *Species* cultivated, 3. *Flowers*, blue, white, & pink; July, Aug., & Sept. *Compost*, equal parts peat, leaf mould, loam, & silver sand. *Position*, pots, tubs, or beds in light plant stove. *Pot or plant*, Mar. *Water* freely Ap. to Sept., moderately afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 80°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar.; cuttings of side shoots inserted in sandy peat in temp. 60° at any time.

Clivia (Caffre Lily).—*Ord.* Amaryllidacæ. Greenhouse evergreen flowering plant. Fleshy-rooted. *Nat.* S. Africa. *Int.* 1823. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, reddish-yellow; Ap. to June. *Compost*, two thirds good loam, one-third decayed manure & sand. *Position*, sunny, close to glass in greenhouse. *Pot*, Feb. *Water* freely Mar. to July, very little afterwards. *Temp.*, Sept. to Feb. 50° to 55°; Feb. to Sept. 65° to 75°. *Propagate* by seeds sown in light soil in temp. 75° in Mar.; division of roots at potting time.

Cloak Fern (*Notholaena distans*)—see *Notholaena*.

Clot (*Nuphar lutea*)—see *Nuphar*.

Cloth of Gold Crocus (*Crocus reticulatus*)—see *Crocus*.

Cloth-leaved Ash (*Fraxinus americana* var. *pannosa*)—see *Fraxinus*.

Clouded Iris (*Iris Xiphium*)—see *Iris*.

Cloud Grass (*Agrostis nebulosa*)—see *Agrostis*.

Clove Gill-flower (*Dianthus caryophyllus*)—see *Dianthus*.

Clove Gillyflower (*Dianthus caryophyllus*)—see *Dianthus*.

Clove Oil Plant (*Eugenia caryophyllata*)—see *Eugenia*.

Clove Pink (*Dianthus caryophyllus*)—see *Dianthus*.

Clove-scented Rose (*Rosa caryophyllacea*)—see *Rosa*.

Clove Shrubby Pink (*Dianthus caryophyllus* var. *fruticosus*)—see *Dianthus*.

Clove Tongue (*Helleborus niger*)—see *Helleborus*.

Glove Tree (*Caryophyllus aromaticus*)—see Caryophyllus.

Cloven-flowered Toad-flax (*Linaria bipartita*)—see Linaria.

Clowesia.—Ord. Orchidaceæ. Stove epiphyt. orchid. *Nat.* Brazil. *Int.* 1842. *Ht.* 4 in. *Species* cultivated, 1. *Flowers*, white, pink; *Mar.* *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off, very little at other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant at potting time.

Clown's Lung-wort (*Verbascum Thapsus*)—see Verbascum.

Club Palm (*Cordyline terminalis*)—see Cordylus.

Clusins's Cinquefoil (*Potentilla Clusiana*)—see Potentilla.

Clusins's Crocus (*Crocus Clusi*)—see Crocus.

Clusins's Daffodil (*Narcissus Clusi*)—see Narcissus.

Clusins's Tulip (*Tulipa Clusiana*)—see Tulipa.

Cluster Pine-tree (*Pinus pinaster*)—see Pinus.

Clustered Bell-flower (*Campanula glomerata*)—see Campanula.

Clustered-flowered Andromeda (*Andromeda racemosa*)—see Andromeda.

Clustered-flowered Fortune's Yew-tree (*Cephalotaxus Fortunei*)—see Cephalotaxus.

Clustered Ivy (*Hedera conglomerata*)—see Hedera.

Clustered Speedwell (*Veronica spicata corymbosa*)—see Veronica.

Clustered Wax-flower (*Stephanotis floribunda*)—see Stephanotis.

Cnicus (Blessed Thistle).—Ord. Composite. Hardy biennial. *Orn.* foliage. *Nat.* S. Europe. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Leaves*, deep green blotched with white. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar. where plants are to grow.

Coakum (*Phytolacca decandra*)—see Phytolacca.

Cobæa (Cup and Saucer-plant, Mexican Ivy).—Ord. Polemoniaceæ. Greenhouse & half-hardy climbing perennial. *Nat.* Mexico. *Int.* 1792. *Ht.* 10 to 30 ft. *Species* cultivated, 1; variegated variety, 1. *Flowers*, purple; *May* to Oct. *Compost*, equal parts loam, leaf-mould, & silver sand. *Position*, pots or beds in greenhouse, or against south or south-west walls outdoors in sun. *Pol.* Mar. *Plant* outdoors in June. *Temp.*, Sept. to Mar. 50° to 55°; *Mar.* to Sept. 60° to 70°. *Water* freely in sun, moderately other times. *Propagate* ordinary species by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar.; variegated species by cuttings of young side shoots inserted in sandy peat in temp. 75° in Mar. or Ap.

Cobæa-flowered Pentstemon (*Pentstemon cobæa*)—see Pentstemon.

Cob-nut (*Corylus avellana* var. *grandis*)—see Corylus.

Cobweb House Leek (*Sempervivum arachnoideum*)—see Sempervivum.

Cochineal Cactus (*Opuntia Tuna*)—see Opuntia.

Cochlearia (Horse-radish, Scurvy Grass).—Ord. Cruciferae. Hardy esculent rooted perennial & biennial. *Nat.* Europe, Britain, N. Hemisphere. *Ht.* 2 in. to 2 ft. *Species* cultivated, 2. *Flowers*, white; *Ap.* to June. *Culture of Horse-radish*: *Soil*, ordinary, deep, rich. *Position*, open or shade. *Plant*, Jan. or Feb., 8 in. deep in rows 2 ft. apart. *Sets* (roots) to be 3 in. long, with $\frac{1}{2}$ in. of crown pared off. *Re-plant* every third year. *Lift* for use as wanted. *Culture of Scurvy Grass*: *Soil*, ordinary. *Position*, open borders. *Sow* seeds in open garden in July; transplant seedlings to permanent position in Sept. for flowering following spring. *Plant* dies after flowering. *Showy* for flower borders in spring. *Propagate* horse-radish by seeds sown outdoors in July; cuttings of roots at planting time.

Cochliostema.—Ord. Commelinaceæ. Stove perennial. *Orn.* foliage.

Flowering. *Nat.* Andes of Ecuador. *Int.* 1867. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, blue, purple, fragrant; *Sept.* *Compost*, equal parts peat, leaf-mould, & loam. *Position*, pots in shady part of stove. *Pot*, Mar. *Water* very freely Ap. to Sept., moderately afterwards. *Syringe* foliage twice daily. *Temp.*, Sept. to Mar. 60° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 80° at any time.

Cockle (*Lychnis Githago*)—see *Lychnis*.

Cock's-comb (*Celosia cristata*)—see *Celosia*.

Cock's-comb Stone-crop (*Sedum crista-galli*)—see *Sedum*.

Cock's-foot Grass (*Dactylis glomerata*)—see *Dactylis*.

Cock Rose (*Papaver Rhæas*)—see *Papaver*.

Cocconut Oil-plant (*Cocos nucifera*)—see *Cocos*.

Cocconut Palm (*Cocos nucifera*)—see *Cocos*.

Cocoa Tree (*Theobroma cacao*)—see *Theobroma*.

Cocos (Cocconut Palm).—*Ord.* Palmacæ. Stove palms. *Orn.* foliage. *Nat.* Brazil, Buenos Ayres, E. Indies, S. America. *Int.* 1690. *Ht.* 3 to 50 ft. *Species* cultivated, about 6. *Leaves*, feather-shape (pinnate). *Compost*, two parts loam, equal parts peat & sand. *Position*, pots in shady stove. *Pot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° at any time.

Codiaeum (Croton or South Sea Laurel).—*Ord.* Euphorbiacæ. Stove evergreen shrubs. *Orn.* foliage. *Nat.* India, Polynesia, South Sea Islands, New Guinea, New Hebrides. *Int.* 1804. *Ht.* 3 to 10 ft. *Species* cultivated, 3; varieties many. *Leaves* beautifully variegated with various colours. *Compost*, two parts rich loam, one part peat & sand. *Position*, pots in stove close to the glass. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by cuttings of the ends of shoots inserted singly in 2 in. pots filled with sandy soil in temp. 75° at any time, or in bottles of water in similar temp.; stem-rooting in Mar. or Ap.

Codlins and Cream (*Epilobium hirsutum*)—see *Epilobium*.

Cœlestina.—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* New Spain. *Int.*, date unknown. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, blue; June to Sept. *Soil*, ordinary. *Position*, warm, sheltered, well drained borders. *Plant*, Mar. or Oct. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in boxes of light soil in temp. 55° to 60° in Mar., transplanting seedlings outdoors in June; cuttings of young shoots in similar soil & temp. in Ap.

Cœlogyne.—*Ord.* Orchidacæ. Stove epiphytal orchids. *Nat.* Assam, Borneo, E. Indies, Java, Khasya, Moulmein. *Int.* 1822. *Ht.* 3 in. to 2 ft. *Species* cultivated, 18; varieties, 6. *Flowers*, white, yellow, fragrant; June to Aug., Oct. to Ap. *Compost*, equal parts fresh sphagnum moss & fibry peat. *Position*, pots or pans half filled with potsherds, & placed close to glass. *Pot*, Feb. or Mar.; have base of plant well above rim of pot or pan. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Nov. 65° to 75°; Nov. to Mar. 60° to 70°. *Water* freely Mar. to Aug.; moderately Aug. to Nov.; very little Nov. to Mar. *Growing season*, Mar. to Aug. *Resting period*, Sept. to Feb. *Propagate* by division of bulbs at potting time.

Coffea (Coffee-tree).—*Ord.* Rubiacæ. Stove evergreen shrubs. *Nat.* Abyssinia, Siberia. *Int.* 1696. *Ht.* 5 to 15 ft. *Species* cultivated, 2. *Flowers*, white, fragrant; Aug. to Oct. *Fruit*, a small reddish, fleshy berry, containing two seeds enclosed in parchment-like shell. *Compost*, two parts turfy loam, one part leaf-mould & sand. *Position*, pots in moist plant stove. *Pot*, Mar. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Mar. 60° to 70°. *Water* freely in sum., moderately other times. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 85° in Mar.; cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 85° in sum.

Coffee Tree (*Coffea arabica*)—see *Coffea*.

Coix (Gromwell Reed, Job's Tears).—*Ord.* Graminaceæ. Half hardy ornamental flowering annual grass. *Nat.* E. Indies, Japan. *Int.* 1596. *Ht.* 2 ft. *Species* cultivated, 1. *Inflorescence*, grey, pearly seeds borne in cluster; July, Aug. *Soil*, light, rich. *Position*, sunny border outdoors. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° in Mar., transplanting seedlings outdoors in May; or similar depth outdoors in Ap. where plants are to flower.

Colchicum (Autumn, Fog, Meadow, Michaelmas, or Purple Crocus, Meadow Saffron, Naked Ladies).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. *Nat.* Britain, Caucasus, Crimea, Kashmir, Greece, Levant, S. Europe. *Int.* (foreign species) 1629. *Ht.* 1 to 4 in. *Species* cultivated, 10. *Flowers*, rose, purple, lilac, white, red, violet; Feb. & Mar., Sept to Nov. *Soil*, light sandy loam, enriched with decayed manure or leaf-mould. *Position*, moist beds on rockeries, shrubby borders, or lawns near shade of trees. *Plant* bulbs 3 in. deep & 3 in. apart in July or Aug. *Foliage* dies down in June & July, & does not reappear until after plant has flowered. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in bed of fine soil outdoors in Aug. or Sept., or in pans or boxes of similar soil in cold frame at same time, transplanting seedlings 3 in. apart when two years old; division of bulbs in Aug. *Seedling* bulbs do not flower until four or five years old.

Coleus (Flame Nettle, Nettle Geranium).—*Ord.* Labiateæ. Stove perennials. Orn. foliage. *Nat.* Ceylon, Africa, E. Indies. *Int.* 1764. *Ht.* 1 to 3 ft. *Species* cultivated, 1; varieties numerous. *Leaves*, richly variegated with all shades of colour. *Compost*, two parts turfy loam, one part well decayed manure, leaf-mould & little sand. *Position*, pots in stove in winter, greenhouse in sum. *Pot.* Feb. or Mar., pressing soil firmly in pots. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to June. 75° to 85°; June to Sept. 65° to 75°. *Water* very moderately Sept. to Mar., freely afterwards. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Feb., Mar., or Ap.; cuttings of young shoots inserted in light soil or coconut-fibre refuse at any time; grafting in spring.

Colewort (*Brassica oleracea*)—see *Brassica*.

Collared Begonia (*Begonia manicata*)—see *Begonia*.

Colletia (Anchor-plant).—*Ord.* Rhamnaceæ. Half-hardy evergreen shrubs. *Nat.* Chili, Peru, River de la Plata. *Int.* 1823. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow, white; May to Aug. *Leaves*, few. *Spines*, numerous. *Soil*, loamy. *Position*, sheltered, well drained borders, or in pots in cold greenhouse. *Plant* or pot in Oct. *Propagate* by cuttings of firm shoots 6 in. long, inserted in well drained pots of sandy soil in cold frame in Aug. or Sept.

Collinsia (Collins's flower).—*Ord.* Scrophulariaceæ. Hardy annuals. *Nat.* Arkansas, California, Columbia, Mexico. *Int.* 1826. *Ht.* 3 to 12 in. *Species* cultivated, 4; varieties several. *Flowers*, purple, white, violet, rose, May to Sept. *Soil*, ordinary. *Position*, open beds or borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Sept., Mar., or Ap. where plants are required to flower. Thin seedlings to 3 in. apart when 2 in. high.

Collinsonia (Collinson's flower, Horse Mint, Heal All, Hard-hack, Horse Weed, Ox-Balm, Rich Weed, Stone Root).—*Ord.* Labiateæ. Hardy herbaceous perennials. *Nat.* U.S. America, N. America. *Int.* 1734. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; Sept. *Leaves*, very fragrant. *Soil*, ordinary. *Position*, sheltered moist border. *Plant*, Oct. or Mar. *Propagate* by division of roots in Oct. or Mar.

Collins's flower (*Collinsia grandiflora*)—see *Collinsia*.

Collochia.—*Ord.* Polemoniaceæ. Hardy annuals, *Nat.* Chili, N.W. America. *Int.* 1826. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, red, yellow, purple, brown; May to Oct. *Soil*, ordinary. *Position*, open beds or

borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Sept., Mar. or Ap. where plants are required to flower. *Thin* seedlings to 3 in. apart when 2 in. high.

Colocasias (Bleeding Heart, West Indian Kale, Egyptian Ginger).—*Ord.* Araceæ. Stove herbaceous plants with perennial tuberous roots. *Orn.* foliage. *Nat.* E. Indies, Sandwich Islands, India. *Int.* 1551. *Ht.* 2 to 5 ft. *Species* cultivated, 3. *Leaves*, shield-like, heart or egg-shaped, deep green. *Compost*, equal parts turfy loam, peat, leaf-mould & silver sand. *Position*, well drained pots in shady plant stove. *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov., freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80°; Sept. to Nov. 65° to 75°; Nov. to Feb. 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Colour-changing Forget-me-not (*Myosotis versicolor*)—see *Myosotis*.

Columbine (*Aquilegia vulgaris*)—see *Aquilegia*.

Columnnea.—*Ord.* Gesneriaceæ. Stove evergreen trailing shrubs. *Nat.* Columbia, W. Indies, Mexico, Guiana, New Grenada. *Int.* 1759. *Species* cultivated, 6. *Flowers*, yellow, orange, red, purple, brown; Feb., June, Aug., & Sept. *Compost*, equal parts fibrous peat, sphagnum moss & charcoal. *Position*, hanging baskets. *Plant*, Mar. *Water* freely in sum., moderately in winter. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots 3 in. long, inserted in pots of above compost mixed with sand, in temp. 85°, Feb.

Colutea (Bladder Senna).—*Ord.* Leguminosæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, Levant. *Int.* 1568. *Ht.* 4 to 10 ft. *Species* cultivated, 2; variety 1. *Flowers*, red, yellow; June to Aug. *Soil*, ordinary. *Position*, open or shady shrubberies, banks, etc. *Plant*, Oct. to Feb. *Prune*, Nov., simply cutting away weak shoots & shortening straggling ones. *Propagate* by seeds sown 1 in. deep outdoors in Oct. or Mar.; cuttings of firm shoots inserted in sandy soil outdoors in Oct.

Colville's Gladiolus (*Gladiolus Colvillei*)—see *Gladiolus*.

Combretum (Caffre Butter-shrub).—*Ord.* Combretiaceæ. Stove evergreen climbers. *Nat.* Africa, Brazil, Mexico, Sierra Leone. *Int.* 1820. *Ht.* 6 to 20 ft. *Species* cultivated, 6. *Flowers*, yellow, orange, scarlet, white; Ap. to Aug. *Compost*, two parts loam, one part peat & sand. *Position*, pots, tubs, or borders in plant stove, shoots trained to pillars or roof. *Pot*, Mar. *Prune* side shoots to within 2 in. of base after flowering & cut away all weak ones. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* daily Mar. to Aug. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of side shoots 3 in. long, removed with slight portion of stem attached, & inserted in well drained pot of sandy soil in temp. 85° in sum.

Commelina (Blue Spider-wort, Day-flower).—*Ord.* Commelinaceæ. Greenhouse & hardy herbaceous perennials. *Nat.* Lima, U.S. America. *Int.* 1759. *Ht.* 1 to 4 ft. *Flowers*, yellow, blue, white; May to Oct. *Species* cultivated, greenhouse 2, hardy 2. *Culture of Greenhouse species*: *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely Mar. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Culture of Hardy species*: *Soil*, light, rich. *Position*, warm, sheltered, well drained bed or border. *Plant* fleshy roots in Ap. *Protect* roots during winter on light soils with thick layer of ashes or manure. *Lift* roots in cold districts in Sept. & store away similarly to dahlias in frost-proof place, replanting in Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar., transplanting seedlings outdoors in May to flower in Aug.; division of fleshy roots in Ap.

Common Aconite (*Aconitum Napellus*)—see *Aconitum*.

- Common Adam's Needle (*Yucca gloriosa*)—see *Yucca*.
 Common Alaternus (*Rhamnus Alaternus*)—see *Rhamnus*.
 Common Alder (*Alnus glutinosa*)—see *Alnus*.
 Common Almond-tree (*Amygdalus communis*)—see *Amygdalus*.
 Common American Cowslip (*Dodecatheon meadia*)—see *Dodecatheon*.
 Common Annual Candytuft (*Iberis umbellata*)—see *Iberis*.
 Common Arrow-head (*Sagittaria sagittifolia*)—see *Sagittaria*.
 Common Ash (*Fraxinus excelsior*)—see *Fraxinus*.
 Common Asparagus (*Asparagus officinalis*)—see *Asparagus*.
 Common Avens (*Geum urbanum*)—see *Geum*.
 Common Balm (*Melissa officinalis*)—see *Melissa*.
 Common Bamboo (*Bambusa arundinacea*)—see *Bambusa*.
 Common Barren-wort (*Epimedium alpinum*)—see *Epimedium*.
 Common Bear's-Breech (*Acanthus mollis*)—see *Acanthus*.
 Common Beech (*Fagus sylvatica*)—see *Fagus*.
 Common Betony (*Stachys betonica*)—see *Stachys*.
 Common Birch (*Betula alba*)—see *Betula*.
 Common Black Currant (*Ribes nigrum*)—see *Ribes*.
 Common Bladder Senna (*Colutea arborescens*)—see *Colutea*.
 Common Blue Lilac (*Syringa vulgaris* var. *cærulea*)—see *Syringa*.
 Common Box-tree (*Buxus sempervirens*)—see *Buxus*.
 Common Broom (*Sarothamnus scoparius*)—see *Sarothamnus*.
 Common Bugle (*Ajuga reptans*)—see *Ajuga*.
 Common Carrot (*Daucus carota*)—see *Daucus*.
 Common Cherry (*Cerasus Caproniana*)—see *Cerasus*.
 Common Club Moss (*Lycopodium clavatum*)—see *Lycopodium*.
 Common Columbine (*Aquilegia vulgaris*)—see *Aquilegia*.
 Common Cotoneaster (*Cotoneaster vulgaris*)—see *Cotoneaster*.
 Common Cowslip (*Primula veris*)—see *Primula*.
 Common Cranberry (*Vaccinium oxycoccus*)—see *Vaccinium*.
 Common Cultivated Plum (*Prunus domestica*)—see *Prunus*.
 Common Dahlia (*Dahlia variabilis*)—see *Dahlia*.
 Common Daisy (*Bellis perennis*)—see *Bellis*.
 Common Daffodil (*Narcissus pseudo-narcissus*)—see *Narcissus*.
 Common Double Red Lilac (*Syringa vulgaris* var. *rubra plena*)—see *Syringa*.
 Common Double White Lilac (*Syringa vulgaris* var. *alba plena*)—see *Syringa*.
 Common Elm (*Ulmus campestris*)—see *Ulmus*.
 Common Erect Yew-tree (*Taxus baccata* var. *erecta*)—see *Taxus*.
 Common Evening Primrose (*Oenothera biennis*)—see *Oenothera*.
 Common Fig-tree (*Ficus carica*)—see *Ficus*.
 Common Filbert (*Corylus Avellana*)—see *Corylus*.
 Common Foxglove (*Digitalis purpurea*)—see *Digitalis*.
 Common Furze (*Ulex europæus*)—see *Ulex*.
 Common Garden Balsam (*Impatiens Roylei*)—see *Impatiens*.
 Common Garden Chrysanthemum (*Chrysanthemum sinense*)—see *Chrysanthemum*.
 Common Garden Hyacinth (*Hyacinthus orientalis*)—see *Hyacinthus*.
 Common Garden Iris (*Iris germanica*)—see *Iris*.
 Common Garden Pæony (*Pæonia officinalis*)—see *Pæonia*.

COMMON GARDEN LEEK.**COMMON PURPLE OR SCOTCH LILAC.**

6

Common Garden Leek (*Allium porrum*)—see *Allium*.

Common Garden Lettuce (*Lactuca sativa*)—see *Lactuca*.

Common Garden Nasturtium (*Tropæolum majus*)—see *Tropæolum*.

Common Garden Pink (*Dianthus plumarius*)—see *Dianthus*.

Common Garden Purslane (*Portulaca oleracea*)—see *Portulaca*.

Common Garden Ranunculus (*Ranunculus asiaticus*)—see *Ranunculus*.

Common Garden Sage (*Salvia officinalis*)—see *Salvia*.

Common Garden Snapdragon (*Antirrhinum majus*)—see *Antirrhinum*.

Common Garden Spinach (*Spinacia oleracea*)—see *Spinacia*.

Common Garden Thyme (*Thymus vulgaris*)—see *Thymus*.

Common Garden Tulip (*Tulipa gesneriana*)—see *Tulipa*.

Common Garlic (*Allium sativum*)—see *Allium*.

Common Giant Fennel (*Ferula communis*)—see *Ferula*.

Common Ginger (*Zingiber officinale*)—see *Zingiber*.

Common Globe-flower (*Trollius europæus*)—see *Trollius*.

Common Grape Hyacinth (*Muscari racemosum*)—see *Muscari*.

Common Gum Cistus (*Cistus cyprius*)—see *Cistus*.

Common Hardy Cactus (*Opuntia vulgaris*)—see *Opuntia*.

Common Heron's-bill (*Erodium cicutarium*)—see *Erodium*.

Common Honey Locust-tree (*Gleditschia triacanthos*)—see *Gleditschia*.

Common Hop (*Humulus lupulus*)—see *Humulus*.

Common House Leek (*Sempervivum tectorum*)—see *Sempervivum*.

Common Hydrangea (*Hydrangea hortensis*)—see *Hydrangea*.

Common Juniper (*Juniperus communis*)—see *Juniperus*.

Common Laburnum-tree (*Cytisus laburnum*)—see *Cytisus*.

Common Lavender (*Lavendula spica*)—see *Lavendula*.

Common Lavender-Cotton (*Santolina chamæcyparissus*)—see *Santolina*.

Common Lime-tree (*Tilia europæa* var. *intermedia*)—see *Tilia*.

Common Lungwort (*Pulmonaria officinalis*)—see *Pulmonaria*.

Common Maple (*Acer campestre*)—see *Acer*.

Common Milfoil (*Achillea millefolium*)—see *Achillea*.

Common Mock Orange (*Philadelphus coronarius*)—see *Philadelphus*.

Common Monk's-hood (*Aconitum Napellus*)—see *Aconitum*.

Common Mulberry-tree (*Morus nigra*)—see *Morus*.

Common Myrtle (*Myrtus communis*)—see *Myrtus*.

Common Oak (*Quercus Robur sessiliflora*)—see *Quercus*.

Common Oleander (*Nerium oleander*)—see *Nerium*.

Common Onion (*Allium cepa*)—see *Allium*.

Common Orache (*Atriplex hortensis*)—see *Atriplex*.

Common Orange Lily (*Lilium croceum*)—see *Lilium*.

Common Peach-tree (*Amygdalus persica vulgaris*)—see *Amygdalus*.

Common Pear-tree (*Pyrus communis sativa*)—see *Pyrus*.

Common Pentstemon (*Pentstemon gentianoides*)—see *Pentstemon*.

Common Primrose (*Primula acaulis*)—see *Primula*.

Common Privet (*Ligustrum vulgare*)—see *Ligustrum*.

Common Purple or Scotch Lilac (*Syringa vulgaris* var. *violacea*)—see *Syringa*.

Common Pyramidal Cypress (*Cupressus sempervirens*)—see *Cupressus*.

Common Red Currant (*Ribes rubrum*)—see *Ribes*.

Common Service-tree (*Pyrus sorbus*)—see *Pyrus*.

Common Silver Fir (*Picea pectinata*)—see *Picea*.

Common Small Daisy (*Bellium bellidioides*)—see *Bellium*.

Common Snowdrop (*Galanthus nivalis*)—see *Galanthus*.

Common Soapwort (*Saponaria officinalis*)—see *Saponaria*.

Common Spleenwort (*Asplenium trichomanes*)—see *Asplenium*.

Common Spoonwort (*Cochlearia officinalis*)—see *Cochlearia*.

Common Spruce (*Abies excelsa*)—see *Abies*.

Common St. John's-wort (*Hypericum hircinum*)—see *Hypericum*.

Common Stonecrop (*Sedum acre*)—see *Sedum*.

Common Sundew (*Drosera rotundifolia*)—see *Drosera*.

Common Sunflower (*Helianthus annuus*)—see *Helianthus*.

Common Sun-rose (*Helianthemum vulgare*)—see *Helianthemum*.

Common Raspberry (*Rubus Idæus*)—see *Rubus*.

Common Rock Purslane (*Calandrinia discolor*)—see *Calandrinia*.

Common Rock-rose (*Cistus vulgaris*)—see *Cistus*.

Common Rue (*Ruta graveolens*)—see *Ruta*.

Common Quince-tree (*Cydonia vulgaris*)—see *Cydonia*.

Common Thrift (*Armeria vulgaris*)—see *Armeria*.

Common Torch Lily (*Tritoma uvaria*)—see *Tritoma*.

Common Turnip (*Brassica rapa var. depressa*)—see *Brassica*.

Common Vervain (*Verbena officinalis*)—see *Verbena*.

Common Violet-flowered Lilac (*Syringa vulgaris var. violacea*)—

see *Syringa*.

Common Walnut-tree (*Juglans regia*)—see *Juglans*.

Common Wallflower (*Cheiranthus Cheiri*)—see *Cheiranthus*.

Common Weeping Birch (*Betula alba var. pendula*)—see *Betula*.

Common White Alder (*Alnus alnifolia*)—see *Alnus*.

Common White Currant (*Ribes rubrum var. album*)—see *Ribes*.

Common White-flowered Jasmine (*Jasminum officinale*)—see *Jasminum*.

Common White Lilac (*Syringa vulgaris alba*)—see *Syringa*.

Common Willow (*Salix alba*)—see *Salix*.

Common Winter-green (*Pyrola minor*)—see *Pyrola*.

Common Woolly Mouse-ear Chickweed (*Cerastium tomentosum*)—see *Cerastium*.

Common Wormwood (*Artemisia absinthium*)—see *Artemisia*.

Common Yellow Balsam (*Impatiens Noli-me-tangere*)—see *Impatiens*.

Common Yellow Crocus (*Crocus luteus*)—see *Crocus*.

Common Yew-tree (*Taxus baccata*)—see *Taxus*.

Compact Japan Cypress (*Retinospora filicoides*)—see *Retinospora*.

Compartmentia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil, Columbia, New Grenada. *Int.* 1836. *Ht.* 3 to 6 in. *Species* cultivated, 4. *Flowers*, rose, scarlet, purple; *Nov.* *Compost*, sphagnum moss, fibry peat. *Position*, on blocks of wood suspended from roof in plant stove. *Re-block*, Mar. or Ap. *Water* freely at all times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of plant in Mar.

Compass Plant (*Silphium laciniatum*)—see *Silphium*.

Comptonia (Fern-leaved Gale, Shrubby Sweet Fern bush).—*Ord.* Myricaceæ. Hardy deciduous shrub. *Orn.* foliage. *Nat.* N. America. *Int.*

1714. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Leaves* finely divided, downy, fern-like. *Soil*, peaty. *Position*, shady border. *Plant*, Oct. or Nov. *Propagate* by layering shoots in Sept., Oct. or Nov.

Conandron.—*Ord.* Gesneriaceæ. Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1879. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white, pink, purple; June to Aug. *Soil*, peat & loam. *Position*, fissures of moist, sheltered rockery. *Plant*, Mar. or Ap. *Protect* in severe winters with covering of dry litter. *Propagate* by seeds sown in well drained pots of sandy peat & just covered with fine mould, in cold frame or greenhouse Mar. or Ap.; division of plant in Mar.

Concave-leaved Elm (*Ulmus campestris* var. *concavæfolia*)—see *Ulmus*.

Conical-tubed Fuchsia (*Fuchsia conica*)—see *Fuchsia*.

Conspicuous Adam's Needle (*Yucca conspiciua*)—see *Yucca*.

Constantinople Campion (*Lychnis chalconica*)—see *Lychnis*.

Constantinople Nut (*Corylus colurna*)—see *Corylus*.

Convallaria (Lily of the Valley, May Lily).—*Ord.* Liliaceæ. Hardy herbaceous perennial. *Nat.* Britain, Europe, Asia, America. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, white; Mar. to June. *Outdoor culture*: Compost, equal parts loam, leaf-mould, decayed manure & sharp sand. *Position*, beds or borders under shade of trees, high walls, or fences for general culture; south border for early flowering. *Plant* single crowns 2 or 3 in. apart, with points just below surface, in Sept. & Oct. *Lift* & replant every 4 years, always planting largest crowns by themselves, next size alone, & smallest similarly. *Mulch* bed annually in Feb. with decayed manure. *Liquid manure* apply once a week, May to Sept., to beds more than a year old. *Pot culture*: Compost, equal parts good soil & leaf-mould. *Plant* one clump or a dozen single crowns in a 6 in. pot, well drained, in Oct. or Nov. *Place* inverted pot over crowns & stand pots in cold frame or under greenhouse stage until Jan., then remove into heat, or allow to bloom naturally in greenhouse or window. *Water* only when soil needs moisture in winter, freely when growth begins. *Forcing*: *Place* single crowns close together in shallow boxes, with cocoanut-fibre refuse between roots, & put boxes in temp. 80° to 85°. *Cover* points of crowns with inverted box or thick layer of moss until flowers appear, then remove it. *After forcing*, crowns of no value for flowering again, therefore discard them. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors in Mar.; division of crowns Sept. or Oct.

Convolvulus (Bearbind, Bellbind, Bindweed, Corn Lily, Woodbine, Bedbind, Devil's Garters, Hedge Lily, Hedge Bells, Sea Bells, Scammony).—*Ord.* Convolvulaceæ. Hardy annual & perennial twining & climbing plants. *Nat.* Britain, Europe, Caucasus, Africa, Levant, Portugal, Australia, China, America. *Int.* (foreign species) 1597. *Ht.* 6 in. to 10 ft. *Species* cultivated, 8 perennials & 1 annual. *Flowers*, white, blue, red, pink, purple; May to Oct. *Soil*, ordinary, rich. *Position*, dwarf kinds in open beds & borders; tall kinds at base of arbours, trellises, walls, or trunks of trees. *Plant* perennials in Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar., where plants are to flower, or in nursery bed, afterwards transplanting seedlings to permanent position; division of fleshy roots in Mar. or Ap.

Cool Tankard (*Borago officinalis*)—see *Borago*.

Cooperia (Evening Star).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plants. *Nat.* Texas. *Int.*, date unknown. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Flowers*, white, red, fragrant; Aug. *Compost*, equal parts peat, loam & leaf-mould. *Position*, pots in cool greenhouse or cold frame. *Pot*, Jan. or Feb. *Water* moderately until growth begins, then give freely; discontinue watering after Sept. & keep soil dry during winter. *Temp.*, Sept. to Feb. 40° to 45°; Feb. to May, 50° to 55°; May to Sept. 55° to 65°. *Propagate* by offsets in Feb.

- Copalm Balsam-tree** (*Liquidambar styraciflua*)—see Liquidambar.
- Copoe Laurel** (*Daphne laureola*)—see Daphne.
- Copper-coloured Beech** (*Fagus sylvatica* var. *cuprea*)—see Fagus.
- Copper-coloured-flowered Sun-rose** (*Helianthemum cupreum*)—see Helianthemum.
- Copper-leaf** (*Acalypha musaica*)—see Acalypha.
- Cop-rose** (*Papaver rhoeas*)—see Papaver.
- Coprosma** (Tasmanian Currant, Looking-glass Bush).—*Ord.* Rubiaceæ. Half-hardy evergreen shrub. Orn. foliage. *Nat.* New Zealand. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Leaves*, egg-shaped, green, blotched or variegated with creamy yellow. *Fruit*, coral red. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, pots in cool greenhouse. *Acrot.*, Mar. *Prune* straggling shoots into shape in Mar. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings removed in Mar., with small portion of old wood attached, & inserted in well drained pots of sandy soil in temp. 85° under bell-glass. *Hardy* in sheltered positions outdoors S. of England.
- Coptis** (Gold Thread, Mouth Root).—*Ord.* Ranunculaceæ. Hardy evergreen bog plants. *Nat.* N. America, Asia, Europe. *Int.* 1782. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; Ap. to July. *Soil*, boggy peat. *Position*, moist, shady. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in pans of fine sandy peat in shady cold frame in Mar.; division of roots in Oct. or Mar.
- Coral Barberry** (*Berberidopsis corallina*)—see Berberidopsis.
- Coral Berry** (*Symphoricarpus vulgaris* & *Berberidopsis corallina*)—see Symphoricarpus & Berberidopsis.
- Coral Creeper** (*Kennedyia prostrata*)—see Kennedyia.
- Coral-flowered Begonia** (*Begonia corallina*)—see Begonia.
- Coral-head-plant** (*Abrus precatorius*)—see Abrus.
- Coral Root** (*Dentaria bulbifera*)—see Dentaria.
- Coral Tree** (*Erythrina indica*)—see Erythrina.
- Cordyline** (Club Palm, Palm Lily, Cabbage Palm).—*Ord.* Liliacæ. Stove & greenhouse plants. Orn. foliage. *Nat.* South Sea Islands, China, New Holland, New Zealand, Madagascar, E. Indies, Mauritius. *Int.* 1820. *Ht.* 2 to 40 ft. *Species* cultivated, about 50; varieties numerous. *Compost*, two parts peat, one part loam & sand. *Position*, pots in stove or greenhouse. *Repot.*, Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65° for greenhouse, 75° to 85° for stove; Sept. to Mar. 45° to 50° for greenhouse, 55° to 65° for stove. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.; cuttings of main stems cut into lengths of 1 in. & partially inserted horizontally in pots of sandy soil in Mar.; cuttings of fleshy roots inserted 1 in. deep in pots of sandy soil, in Mar. or Ap. in temp. 75° to 80°; stem rooting in Mar. or Ap.; offsets inserted in 2-in. pots of sandy soil at any time.
- Coreopsis** (Large-flowered Tickseed, Lance-leaved Tickseed, Slender-leaved Tickseed, Dyer's Tickseed).—*Ord.* Compositæ. Hardy annual a perennial herbaceous plants. *Nat.* Texas, U.S. America. *Int.* 1699. *Ht.* 6 in. to 3 ft. *Species* cultivated, 6; varieties several. *Flowers*, yellow, crimson, brown; May to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant* perennials in Oct. or Mar., annuals in May or June. *Propagate* annuals by seed sown $\frac{1}{2}$ in. deep in boxes of light soil in temp. 65° to 70° in Mar., or outdoors in Ap. where plants are to flower; perennials by seed sown outdoors in Ap., transplanting seedlings when large enough to handle to permanent position; division of roots in Oct. or Mar.
- Corfu Lily** (*Funkia subcordata*)—see Funkia.
- Coriandrum** (Coriander).—*Ord.* Umbellifere. Hardy annual. *Nat.* S. Europe. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, white; sunn. *Leaves*

CORIS.**CORONILLA.**

used for flavouring soups & salads. *Seed* ripens in Aug., & is largely employed in confectionery. *Soil*, ordinary. *Position*, south border. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills 12 in. apart, Mar. or Sept.

Coris (Montpelier Coris).—*Ord.* Primulacæ. Hardy biennial *Nat.* S. France. *Int.* 1640. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, lilac; May to Aug. *Soil*, sandy peat. *Position*, well drained beds on sunny rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Aug. or Ap. where plants are to grow.

Coris-leaved Candytuft (*Iberis corifolia*)—see *Iberis*.

Cork-barked Elm (*Ulmus suberosa*)—see *Ulmus*.

Cork Oak (*Quercus suber*)—see *Quercus*.

Cork Tree (*Quercus suber*)—see *Quercus*.

Corky-white Elm (*Ulmus racemosa*)—see *Ulmus*.

Corn Bottle (*Centaurea cyanus*)—see *Centaurea*.

Corn Camomile (*Anthemis arvensis*)—see *Anthemis*.

Corn Cockle (*Agrostemma Githago*)—see *Agrostemma*.

Corn-flower (*Centaurea cyanus*)—see *Centaurea*.

Corn Flag (*Antholyza aethiopica*)—see *Antholyza*.

Corn Flag (*Gladiolus communis*)—see *Gladiolus*.

Corn Lily (*Convolvulus arvensis* & *C. sepium*)—see *Convolvulus*.

Corn Marigold (*Chrysanthemum segetum*)—see *Chrysanthemum*.

Corn Pink (*Lychnis Githago*)—see *Lychnis*.

Corn Poppy (*Papaver Rhæas*)—see *Papaver*.

Corn Rose (*Papaver Rhæas*)—see *Papaver*.

Corn Salad (*Valerianella olitaria*)—see *Valerianella*.

Cornel (*Cornus sanguinea*)—see *Cornus*.

Cornelian Cherry (*Cornus mascula*)—see *Cornus*.

Cornfield Bell-flower (*Campanula hybrida*)—see *Campanula*.

Cornfield Gladiole (*Gladiolus segetum*)—see *Gladiolus*.

Cornish Elm (*Ulmus campestris* var. *cornubiensis*)—see *Ulmus*.

Cornish Money-wort (*Sibthorpia europæa*)—see *Sibthorpia*.

Cornish Variegated Money-wort (*Sibthorpia europæa variegata*)—see *Sibthorpia*.

Cornus (Bunch Berry, Dwarf Cornel, Cornelian Cherry, Cornel-tree, Dogwood, Dog Cherry, Dogberry, Pegwood, Skewerwood, False Box-wood, Green Osier).—*Ord.* Cornacæ. Hardy deciduous trees & shrubs. Flowering & orn. foliage. *Nat.* Asia, Britain, N. America, U.S. America, India. *Int.* (foreign species) 1599. *Ht.* 6 in. to 15 ft. *Species* cultivated, 8; varieties several. *Flowers*, white, yellow, purple; Ap. to Aug. *Leaves*, green, or variegated with white & crimson. *Soil*, sandy peat for dwarf species, ordinary for others. *Position*, rockery for dwarf kinds; open or shady shrubberies for tall species. *Plant*, Oct. to Feb. *Prune*, Nov. or Dec., simply cutting branches into shape. *Propagate* by cuttings of firm shoots inserted in sandy soil outdoors in Nov.; layering shoots in Oct.; suckers, removed from plant in Nov. & replanted at once; grafting variegated kinds in Mar.; seeds sown outdoors in Mar.

Coronilla (Crown Vetch, Scorpion Senna).—*Ord.* Leguminosæ. Greenhouse shrubs & hardy perennial herbs. *Nat.* S. Europe. *Int.* 1596. *Ht.* 6 in. to 4 ft. *Species* cultivated, 3 shrubs, 2 herbaceous perennials. *Flowers*, yellow, pink, white, fragrant; May to Nov. *Culture of Greenhouse species*: *Compost*, two parts loam, one part peat & sand. *Position*, pots in light greenhouse. *Repot*, Mar. *Prune* off points of shoots in spring to induce bushy growth. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar., 40° to 45°; Mar. to Sept. 55° to 65°. *Place* plants outdoors in sunny position June to Sept. *Culture of Perennials*: *Soil*, ordinary. *Position*, sunny

rockeries or borders. *Plant*, Oct. or Ap. *Propagate* shrubby species by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar., or by cuttings inserted in well drained pots of sandy soil under bell-glass in temp. 55° in Mar., Ap. or May; perennials by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., or division of roots in Oct.

Corn Centaury (*Centaurea cyrcus*)—see *Centaurea*.

Corokia.—*Ord.* Cornaceæ. Half-hardy evergreen trailing shrub. *Nat.* New Zealand. *Int.*, date unknown. *Species* cultivated, 1. *Flowers*, yellow, fragrant; sum. *Soil*, good ordinary. *Position*, sheltered against south or west wall. *Plant*, Oct to Ap. *Propagate* by cuttings inserted in sand in well drained pan under bell-glass; layering shoots in Oct.

Coronation Plant (*Dianthus caryophyllus*)—see *Dianthus*.

Coroeka Oil-plant (*Argemone mexicana*)—see *Argemone*.

Correa (South Australian Fuchsia).—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* S. Australia. *Int.* 1793. *Ht.* 3 to 10 ft. *Species* cultivated, 3; varieties several. *Flowers*, white, scarlet, crimson, green; Nov. to Mar. *Compost*, two parts peat, one part fibrous loam & sand. *Position*, pots well drained in light, airy greenhouse. *Repot* in July when new growth begins. *Prune* directly after flowering. *Water* moderately Ap. to July & Oct. to Ap., freely July to Oct. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept., 55° to 65°. *Place* plants outdoors in sunny position July to Sept. *Propagate* by cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75° in Ap.; grafting on *Correa alba* or *Ernstemon buxifolia* in Mar.

Corsican Dwarf Pine-tree (*Pinus laricio* var. *pygmaea*)—see *Pinus*.

Corsican Pine-tree (*Pinus laricio*)—see *Pinus*.

Corsican Stonecrop (*Sedum corsicum*)—see *Sedum*.

Corsican Thyme (*Thymus corsicus*)—see *Thymus*.

Cortean Pine-tree (*Pinus pinaster* var. *minor*)—see *Pinus*.

Cortusa (Swiss Sanicle, Bear's-ear Sanicle, Downy Sanicle).—*Ord.* Primulaceæ. Hardy perennial alpine plants. *Nat.* Swiss Alps, Siberia, Transylvania. *Int.* 1596. *Ht.* 6 to 12 in. *Species* cultivated, 1; varieties, 2. *Flowers*, purple; May to June. *Soil*, sandy peat. *Position*, shady border or rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy peat in cold frame in Mar. or Aug.; division of plant in Mar.

Cortusa-leaved Primrose (*Primula cortusoides*)—see *Primula*.

Coryanthes (Helmet-flower, Helmet orchid).—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Caraccas, Brazil, Demerara. *Int.* 1829. *Species* cultivated, 3. *Flowers*, orange, yellow, purple, crimson; Ap. to July. *Compost*, equal parts peat & sphagnum moss. *Position*, baskets suspended from roof of stove. *Re-basket* in Mar. *Water* freely Ap. to Sept., very little afterwards. *Temp.*, Ap. to Aug. 65° to 85°, Aug. to Ap. 50° to 65°. *Growing* season. Ap. to Aug. *Resting period*, Aug. to Ap. *Propagate* by division of plant in Mar.

Corydalis (Golden, Solid-rooted, Pale, Great-flowered, Marshall's, Ledebour's Fumewort, Hollow-root, Hollow Leek, Hollow-wort, Staggerweed, Turkey Corn, Turkey Pea, Colic-weed).—*Ord.* Fumariaceæ. Hardy annual, biennial & perennial herbs. *Nat.* Altai, Britain, Europe, U.S. America, Tauria, Siberia, Turkestan. *Int.* (foreign species) 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 13. *Flowers*, yellow, red, purple; Ap. to July. *Soil*, ordinary, good. *Position*, well drained sunny borders, ledges of rockeries, fissures in old walls. *Plant* perennial & biennial species in Mar. *Propagate* annual species by seeds sown in Ap. where plants are to flower; biennials by seed sown in boxes of light soil in cold frame or outdoors in Ap.; perennials by seed similar to biennials, transplanting seedlings to permanent positions when large enough to handle; also by division of the plants after flowering, bulbous species by offsets in Mar.

Corylopsis. — *Ord.* Hamamelidaceæ. Hardy deciduous flowering shrub. *Nat.* Japan. *Int.* 1864. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, pale yellow, fragrant; Feb. *Soil*, sandy loam. *Position*, open, moist shrubbery. *Plant*, Oct. to Feb. *Propagate* by layering shoots in Oct.

Corylus (Constantinople Hazel, Hazel, Cob-nut, Filbert). — *Ord.* Corylaceæ. Hardy deciduous shrubs. *Orn.* foliage & nut-bearing. *Nat.* Britain, Asia, Africa, Europe, Canada. *Int.* (foreign species) 1666. *Ht.* 4 to 20 ft. *Species* cultivated, 3; varieties many. *Flowers*, male—grey, female—crimson; Mar., Ap. *Nuts* ripe in Oct. *Soil*, rich loam, well manured & deeply trenched. *Position*, open, sunny. *Plant* cob & hazel nuts 10 ft. apart each way, & filberts 15 ft. apart, in Oct. *Prune* end of Mar., cutting away shoots not less than two years old & shortening those of previous year's growth about one-third. *Train* each tree to have six main branches only. *Gather* nuts when husk becomes brown. *Hang* branches of hazel catkins (male flowers) in filbert bushes in Mar., if filbert catkins are scarce, to ensure fertilization. *Propagate* by seed (nuts) sown 2 in. deep in Oct. in open garden, transplanting seedlings two years afterwards; suckers removed from base of old plants replanted in Oct.; layering strong young shoots in Nov.; grafting on seedlings of Constantinople Nut in Mar. to form standards, half standards, & dwarf standards.

Corymbose Fuchsia (*Fuchsia corymbiflora*)—see Fuchsia.

Corypha (Cabbage Palm, Cabbage-tree). — *Ord.* Palmaceæ. Stove palms. *Orn.* foliage. *Nat.* Java, India, Ceylon. *Ht.* 5 to 100 ft. *Species* cultivated, 2. *Leaves*, fan-shaped, deep green. *Compost*, two parts peat, one part loam & silver sand. *Position*, pots in moist plant stove. *Repot.* Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° to 90° in Mar. or Ap. For culture of *Corypha australis*, see *Livistonia*.

Cos Lettuce (*Lactuca sativa*)—see Lactuca.

Cosford Nut (*Corylus Avellana* var. *tenuis*)—see Corylus.

Cosmos (Purple Mexican Aster). — *Ord.* Compositæ. Hardy annuals & perennials. *Nat.* Mexico. *Int.* 1799. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, rose, purple, scarlet; July to Oct. *Soil*, ordinary. *Position*, warm, dryish border. *Plant* perennial species out in Ap.; lift & store roots similar to dahlias in Sept. *Propagate* annual species by seeds sown in light soil in temp. of 65° to 70° in Mar., transplanting seedlings outdoors in May; perennials by seeds in similar manner, or division of tuberous roots in Ap.

Cost (*Tanacetum balsamita*)—see Tanacetum.

Cotoneaster (Quince-leaved Medlar, Rose Box). — *Ord.* Rosaceæ. Hardy evergreen & deciduous shrubs, bearing scarlet fruits in winter. *Nat.* Britain, Europe, Nepal, Kashmir, Himalayas. *Int.* (foreign species) 1824. *Ht.* 1 to 15 ft. *Species* cultivated, 5 deciduous, 8 evergreen. *Flowers*, pink, white; May. *Fruit*, scarlet berries, borne in winter. *Soil*, ordinary. *Position*, shrubberies, open, or in shade, trailing species against walls or growing over tree roots & rocks, or bare ground under trees. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep outdoors in Mar.; cuttings inserted in sandy soil outdoors in Oct.; layering shoots in Oct.; grafting on common species, quince, or hawthorn in Mar.

Cotton-plant (*Gossypium herbaceum*)—see Gossypium.

Cotton Thistle (*Onopordon acanthium*)—see Onopordon.

Cotton-tree (*Populus heterophylla* & *Viburnum lantana*)—see Populus & Viburnum.

Cotton-weed (*Antennaria dioica*)—see Antennaria.

Cotton-wood (*Populus Fremonti*)—see Populus.

Cotyledon (Navelwort, Kidneywort, Penny-grass, Pennywort, Hip-oat, Horn leaves). — *Ord.* Crassulaceæ. Greenhouse & hardy evergreen suc-

culent plants. *Nat.* Cape of Good Hope, California, Mexico, Cilicia, Altai, Britain, Candia, Siberia, China, Africa. *Int.* (foreign species) 1690. *Ht.* 6 in. to 4 ft. *Species* cultivated, 42. *Flowers*, white, red, yellow, scarlet; May to Dec. *Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, pots well drained, close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely Mar. to Sept., very little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 60° to 70°. *Hardy species* plant in ordinary soil on sunny rockeries, Mar. to June. *Greenhouse species* can be grown outdoors in beds, June to Sept. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar.; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept., or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Countryman's Treacle (*Ruta graveolens*)—see *Ruta*;

Country Pepper (*Sedum acre*)—see *Sedum*.

Courtship-and-Matrimony (*Spiræa ulmaria*)—see *Spiræa*.

Coventry Bells (*Campanula medium* & *C. pulsatilla*)—see *Campanula*.

Coventry Rapes (*Campanula medium*)—see *Campanula*.

Coven-tree (*Viburnum lantana*)—see *Viburnum*.

Cow Basil (*Saponaria vaccaria*)—see *Saponaria*.

Cow-bell (*Silene inflata*)—see *Silene*.

Cow-berry (*Vaccinium vitis idæa*)—see *Vaccinium*.

Cow Parsley (*Heracleum giganteum*)—see *Heracleum*.

Cow Parsnip (*Heracleum giganteum*)—see *Heracleum*.

Cowslip-scented Orchid (*Vanda furva*)—see *Vanda*.

Cowslip-scented Tulip (*Tulipa illyensis*)—see *Tulipa*.

Crab's Eyes (*Abrus precatorius*)—see *Abrus*.

Crambe (Heart-leaved Colewort, Shrubby Colewort, Sea Cabbage, Seakale).—*Ord.* Crucifera. Hardy herbaceous perennials & esculent vegetable. *Nat.* Britain, Caucasus, Iberia, Europe. *Int.* (foreign species) 1789. *Ht.* 18 in. to 6 ft. *Species* cultivated, 3. *Flowers*, white; May to July. *Culture of perennials*: Soil, ordinary, rich. *Position*, open borders. *Plant* roots 3 in. deep in groups of three or six in Mar. *Culture of Seakale*: Soil, deep, rich, sandy. *Position*, open, sunny. *Trench* soil 2 ft. deep in autn., burying in abundance of manure. *Plant* roots 4 to 6 in. long, 2 in. deep, uprightly, 18 in. apart in rows 30 in. asunder in Feb. or Mar. *Pare off* crown buds before planting. *Mulch* beds with stable manure in Ap. *Apply* common salt at the rate of 1 lb. to a square rod, or 2 lbs. of nitrate of soda to same area in June. *Lift* & replant every five years. *Manure* & dig between rows in Nov. *Blanching*: Cover roots in open ground with inverted pots, dry tree leaves, or cinder ashes in Nov. *Forcing outdoors*: Cover roots with inverted pots in Nov. & put thick layers of fresh manure & leaves on these in Jan. *Forcing indoors*: *Lift* roots in Nov., Dec. or Jan. & place them close together in large pots or boxes, with ordinary soil between, in temp. 50° to 60°. *Keep* roots moist & dark. *Roots* of no value after forcing. *Propagate* seakale by seed sown 1 in. deep in rows 12 in. apart in Mar., thinning seedlings to 6 in. apart in June & transplanting them to permanent beds when a year old, or by cuttings of roots as advised for planting; perennials by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar., transplanting seedlings in July; cuttings of shoots or division of roots in Mar.

Crape Myrtle (*Lagerstrœmia indica*)—see *Lagerstrœmia*.

Cratægus (May, Hawthorn, Quick, Black Thorn, White Thorn, Glas-tonbury Thorn, Christ's Thorn, Evergreen Fire Thorn, Fire Bush, Egyptian Thorn).—*Ord.* Rosaceæ. Hardy deciduous & evergreen trees & shrubs. *Nat.* Britain, S. Europe, Levant, S. & N. America. *Int.* (foreign species) 1629.

Species cultivated, 25 deciduous, 1 evergreen; varieties several. *Ht.* 6 to 20 ft. *Flowers*, white, red, scarlet, single & double; May & June. *Soil*, ordinary, rich. *Position*, trees & shrubs in woods, shrubberies, lawns, & pleasure grounds; evergreen species against east or north walls; common quick in hedges. *Plant*, Oct. to Feb. *Prune* evergreen fire thorn in Feb., cutting away shoots that have borne berries only; deciduous kinds in Nov., simply cutting tree or shrub into shape where necessary. *Hedges*: *Soil*, ordinary, trenched 2 ft. deep & 2 ft. wide. *Plant*, Nov. to Mar. *Distance apart*: 4 in. single row, 6 in. double row 6 in. asunder. *Quantity* of plants required per yard for single row, 9; double row, 12. *Pot culture*: Double pink & white kinds adapted for pot culture in cool greenhouse, or for forcing. *Pot*, Oct. or Nov., in good soil. *Water* moderately Oct. to Mar., freely afterwards. *Keep* plants in cool structure till Jan., then place in temp. 55° to 65° to flower early or leave them in cool house to flower naturally. *After flowering*, place plants outdoors to make new growth. *Propagate* by seeds (berries) sown 1 in. deep in open garden in Nov., transplanting largest seedlings following Oct., the remainder the next year; budding choice varieties on common hawthorn in July; grafting similarly in Mar. *Berries* require to be stored in sand for a year before sowing.

Cratægus-like Barberry (*Berberis cratægina*)—see *Berberis*.

Crawfordia (Climbing Gentian).—*Ord.* Gentianaceæ. Half-hardy climbing herbs. *Nat.* Himalayas. *Int.* 1855. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, purple, green; Aug. *Compost*, equal parts loam, peat & sand. *Position*, against south wall S. of England, pots in greenhouse otherwise. *Plant*, May *Pot*, Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.* Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Propagate* by seed sown in light soil in temp. 65° to 70° in Mar.; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 75° in sum.

Crassula (Thick-leaf)—*Ord.* Crassulaceæ. Greenhouse & hardy shrubby evergreen plants. *Nat.* Abyssinia, Cape of Good Hope, Himalayas. *Int.* 1710. *Ht.* 6 in. to 8 ft. *Species* cultivated, 12. *Flowers*, white, red, rose scarlet, fragrant; Ap. to Dec. *Compost*, equal parts sandy loam, brick rubble, dried cow manure & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Pinch* off the points of long shoots of *C. coccinea* & *jasminiflora* in June or July. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.* Mar. to Sept. 55° to 65°, Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Cream-coloured Gentian (*Gentiana gelida*)—see *Gentiana*.

Creamy-flowered Primrose (*Priamel invo'crata*)—see *Primula*.

Creeping Avens (*Geum reptans*)—see *Geum*.

Creeping Club Moss (*Selaginella apus*)—see *Selaginella*.

Creeping Fig-tree (*Ficus repens*)—see *Ficus*.

Creeping Forget-me-not (*Omphalodes verna* & *Myosotis repens*)—see *Omphalodes* & *Myosotis*.

Creeping Jack (*Sedum acre*)—see *Sedum*.

Creeping Jenny (*Lysimachia nummularia*)—see *Lysimachia*.

Creeping Money-flower (*Mimulus repens*)—see *Mimulus*.

Creeping Phlox (*Phlox reptans*)—see *Phlox*.

Creeping-rooted Barberry (*Berberis repens*)—see *Berberis*.

Creeping Sailor (*Saxifraga sarmenosa*)—see *Saxifraga*.

Creeping Saxifrage (*Saxifraga sarmenosa*)—see *Saxifraga*.

- Creeping Speedwell** (*Veronica repens*)—see *Veronica*.
Creeping St. John's-wort (*Hypericum repens*)—see *Hypericum*.
Creeping Water-cress (*Nasturtium sylvestre*)—see *Nasturtium*.
Creeping Willow (*Salix repens*)—see *Salix*.
Creeping Winter Green (*Gaultheria procumbens*)—see *Gaultheria*.
Creeping Wormwood (*Artemisia repens*)—see *Artemisia*.
Crepis (Hawk's Beard).—*Ord.* Compositæ. Hardy herbaceous perennials & annuals. *Nat.* Mountains of S. Europe. *Int.* 1632. *Ht.* 4 to 12 in. *Species* cultivated, 1 perennial, 1 annual. *Flowers*, orange, red; Sept. & Oct. *Soil*, ordinary, sandy. *Position*, sunny borders, banks, or rockeries. *Plant* perennial species in Mar. or Ap. *Propagate* annual species by seeds sown $\frac{1}{2}$ in. deep in Ap. where plants are required to flower; perennial species by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., transplanting seedlings in July, or by division of roots in Mar. or Ap.
Crest Marine (*Crithmum maritimum*)—see *Crithmum*.
Crested Beech (*Fagus sylvatica* var. *cristata*)—see *Fagus*.
Crested Gentian (*Gentiana septemfida*)—see *Gentiana*.
Crested Shield Fern (*Lastræa cristata*)—see *Lastræa*.
Cretan Mullein (*Celsia cretica*)—see *Celsia*.
Cretan Rock Rose (*Cistus creticus*)—see *Cistus*.
Cretan Rose (*Rosa glutinosa*)—see *Rosa*.
Cretan Spikenard (*Valeriana Phu*)—see *Valeriana*.
Crimean Ivy (*Hedera helix taurica*)—see *Hedera*.
Crimean Rose (*Rosa taurica*)—see *Rosa*.
Crimean Sea Lavender (*Statice taurica*)—see *Statice*.
Crimean Snowdrop (*Galanthus plicatus*)—see *Galanthus*.
Crimean Speedwell (*Veronica taurica*)—see *Veronica*.
Crimean Squill (*Scilla taurica*)—see *Scilla*.
Crimson-anthered Lily (*Lilium Szovitzianum*)—see *Lilium*.
Crimson Corn Flag (*Schizostylis coccinea*)—see *Schizostylis*.
Crimson Everlasting (*Gnaphalium sanguineum*)—see *Gnaphalium*.
Crimson-flowered Californian Hyacinth (*Brodiaea coccinea*)—see *Brodiaea*.
Crimson-flowered Flax (*Linum grandiflorum*)—see *Linum*.
Crimson-flowered Starwort (*Aster coccineus*)—see *Aster*.
Crimson-leaved Japanese Maple (*Acer polymorphum atro-purpureum*)—see *Acer*.
Crimson Passion-flower (*Passiflora kermesina*)—see *Passiflora*.
Crimson Satin-flower (*Brodiaea coccinea*)—see *Brodiaea*.
Crimson Silver Fir (*Picea Nordmanniana*)—see *Picea*.
Crimson Stonecrop (*Sedum spurium*)—see *Sedum*.
Crinum (Brazil Lily, Cape Lily, Murray Lily, Cape Coast Lily, Large African Lily, Queensland Lily).—*Ord.* Amaryllidaceæ. Stove, greenhouse, & hardy deciduous bulbous plants. *Nat.* Australia, America, India, Mauritius, Sumatra, Socotra, Africa, Asia, Old Calabas, Fernando Po. *Int.* 1732 *Ht.* 1 to 3 ft. *Species* cultivated, 20 stove, 6 greenhouse, & 1 hardy. *Culture of stove & greenhouse species*: *Compost*, two parts turfy loam, one part peat & silver sand. *Position*, pots in light plant stove or greenhouse. *Pot*, Mar., in large pots or tubs well drained. *Water* freely Mar. to Oct., very little afterwards. *Store* pots containing bulbs on their sides in stove or greenhouse during winter. *Repot* every 3 or 4 years. *Apply* liquid manure to established bulbs in sun. *Temp.*, Mar. to Sept. 75° to 85° for stove, 55° to 60° for greenhouse; Sept. to Mar. 55° to 65° for stove, 45° to 50° for greenhouse. *Culture of hardy species*: *Soil*, rich, deep. *Position*, south, well drained border. *Plant* bulbs 6 in. deep in Mar. *Protect* in winter by covering with cinder

ashes or leaves. *Water* freely in sum. *Propagate* by seeds sown 1 in. deep singly in 3 in. pots of sandy soil in temp. 85° in Mar.; offsets inserted singly in pots of sandy soil in Mar. *Seedling* plants take several years to flower.

Crisped Hart's-tongue Fern (*Scolopendrium vulgare*)—see *Scolopendrium*.

Crithmum (Samphire-crest Marine, Peter's Cress, Sea Fennel.—*Ord.* Umbelliferae. Hardy perennial herb. *Nat.* Britain. *Ht.* 8 in. *Species* cultivated, 1. *Flowers*, white; June to July. *Soil*, sandy. *Position*, sunny rockery. *Plant*, Mar. *Protect* with leaves in winter. *Propagate* by seeds sown in sandy soil in cold frame in Sept. or Oct.; division of roots in Mar.

Crocasmia.—*Ord.* Iridaceae. Hardy bulbous perennial. *Nat.* Africa. *Int.* 1846. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, orange-red; July to Oct. *Outdoor culture*: *Soil*, light, rich, sandy. *Position*, well-drained south border. *Plant* bulbs, Sept. or Oct., 6 in. deep & 4 in. apart, surrounding each bulb with an inch of sand & protecting during winter with a covering of dry leaves or ashes. *Lift* & replant every three years. *Pot culture*: *Compost*, equal parts turfy loam, peat, leaf-mould & silver sand. *Position*, cold frame or greenhouse. *Pot*, Oct., placing six bulbs 1 in. deep in a 5-in. pot, well drained, with an inch of decayed cow manure over drainage. *Water* when new growth commences, afterwards keep moderately moist until foliage dies down, then keep dry. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or boxes filled with sandy soil in cold greenhouse in Sept. or Oct.; offsets in Oct.

Crocus.—*Ord.* Iridaceae. Hardy deciduous bulbous flowering plants. *Nat.* Britain, Greece, Tuscany, Transylvania, Asia, Crete, Crimea, Morea, Europe, Maritime Alps, Caucasus, Georgia, Ala Tau Mountains, Italy. *Int.* (foreign species) 1605. *Ht.* 2 to 4 in. *Species* cultivated, 18; varieties many. *Flowers*, various; Feb., Mar., Sept., Oct. & Nov. *Outdoor culture*: *Soil*, light, rich. *Position*, margins of beds or borders or in grass plots & lawns, open or in shade, for common sorts; sunny well drained beds, or on rockeries, for rare & choice kinds. *Plant* spring-flowering species & varieties in Oct., Nov., or Dec.; autumn-flowering species in Aug. & Sept. *Depth & distance*: Common kinds, 3 in.; choice & rare sorts, 2 in. *Leave* corms undisturbed for four or five years, unless their place is wanted for other plants. *Lift* when necessary in June or July, drying corms in sun & storing in cool room till planting time. *Foliage* should not be removed until it turns yellow. *Culture in grass*: *Bore* holes 3 in. deep & 2 in. apart, insert a corm in bottom of each, then fill up with ordinary soil. Grass should not be cut till foliage turns yellow. *Pot culture*: *Compost*, light, rich, sandy soil. *Position*, 3 or 5-in. pots in window, greenhouse, or frame. *Plant* six corms, 1 to 2 in. deep, in a 6-in. pot, or four in a 3-in. size, in Oct., Nov., or Dec. *After potting*, place pots in cold frame or under a wall & cover with cinder ashes till growth begins, then remove to greenhouse, etc. *Water* freely when growth begins; give less as foliage fades. *Corms* of no use for flowering second time in pots, but may be planted out in garden. *Forcing*: Place in temp. 55° to 65° in Dec. or Jan. *Propagate* by seeds sown $\frac{1}{2}$ in. deep & 1 in. apart in light sandy soil in cold frame in Sept., Oct., or Nov., transplanting seedlings in Aug. of second year; offsets removed from old corms in July or Aug. & replanted 2 in. deep & 2 in. apart at same time. *Seedling corms* flower when three & four years old.

Croneberry (*Vaccinium oxycoccos*)—see *Vaccinium*.

Crop-weed (*Centaurea nigra*)—see *Centaurea*.

Crossandra.—*Ord.* Acanthaceae. Stove evergreen flowering shrub. *Nat.* Trop. Africa, E. Indies. *Int.* 1877. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, lilac, orange; Sept. & Oct. *Compost*, equal parts loam, peat & sand. *Position*, pots in moist plant stove. *Pot*, Mar. *Water* moderately during winter freely other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Oct.

75° to 85°. *Propagate* by cuttings of shoots 2 or 3 in. long, inserted in sand under bell-glass, in temp. of 85° at any time of year.

Cross-bine (*Bignonia capreolata*)—see *Bignonia*.

Cross-leaved Phlox (*Phlox decussata*)—see *Phlox*.

Cross-leaved St. John's-wort (*Hypericum decussatum*)—see *Hypericum*.

Cross of Jerusalem (*Lychnis chalconica*)—see *Lychnis*.

Croton Oil-plant (*Croton Tiglium*)—see *Codiaeum*.

Crow-bells (*Scilla nutans*)—see *Scilla*.

Crowea.—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* W. Australia, N. S. Wales. *Int.* 1700. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, red, pink; June to Sept. *Compost*, two parts peat, one fibrous loam, & little sand. *Position*, pots in light airy greenhouse. *Pot.* Mar. or Ap. *Prune* straggling shoots into shape in Mar. *Water* very little Oct. to Mar., moderately Mar. to Oct. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings inserted in sand under bell-glass in temp. of 65° to 75° in Mar. or Ap.; grafting on *Correa alba* or *Eriostemon buxifolia* in Mar.

Crow-flower (*Lychnis Flos-cuculi*)—see *Lychnis*.

Crow Soap (*Saponaria officinalis*)—see *Saponaria*.

Crown Daisy (*Chrysanthemum coronarium*)—see *Chrysanthemum*.

Crown Imperial (*Fritillaria imperialis*)—see *Fritillaria*.

Crown-of-thorns (*Medicago echinus*)—see *Medicago*.

Crown Vetch (*Coronilla varia*)—see *Coronilla*.

Crucianella (Cross-wort, Petty Cross wort, Sea Cross wort, Large Style Cross-wort).—*Ord.* Rubiaceæ. Hardy herbaceous perennials. *Nat.* Persia, Asia, Mediterranean. *Int.* 1640. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, cream, fragrant; July & Aug. *Position*, dry banks, rockeries, or borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown outdoors in Mar., transplanting seedlings to permanent positions in July or Aug.; division of roots in Mar., Ap., Oct. or Nov.

Crusted-leaved Saxifrage (*Saxifraga crustata*)—see *Saxifraga*.

Cryptanthus.—*Ord.* Bromeliaceæ. Stove & evergreen perennials; flowering & orn. foliage. *Nat.* Brazil, Trop. America. *Int.* 1826. *Ht.* 6 to 9 in. *Species* cultivated, 3. *Flowers*, white; Feb. to May. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Pot.* Mar. *Water* freely always; good drainage essential. *Temp.*, Sept. to Mar. 65° to 75°; Mar. to Sept. 75° to 85°. *Propagate* by large-sized offsets inserted singly in small pots in temp. of 85° in Ap.

Cryptogramme—modern name for *Allosorus*—see *Allosorus*.

Cryptomeria (Japanese Cedar, Lobb's *Cryptomeria*).—*Ord.* Coniferæ. Hardy evergreen coniferous trees. *Orn.* foliage. *Nat.* Japan. *Int.* 1844. *Ht.* 20 to 100 ft. *Species* cultivated, 2; varieties, 4. *Foliage* bright green in spring & sum.; bronzy crimson during winter. *Soil*, deep, rich, moist loam. *Position*, sheltered on lawns. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy loam in temp. of 55° in Mar. or outdoors in Ap.; cuttings of side shoots 2 or 3 in. long, inserted in sandy soil under hand-light, or in cold frame, in Sept. or Oct.

Cuban Lily (*Scilla peruviana*)—see *Scilla*.

Cuckoo Orchis (*Orchis mascula*)—see *Orchis*.

Cucumber (*Cucumis sativa*)—see *Cucumis*.

Cucumber Tree (*Magnolia acuminata*)—see *Magnolia*.

Cucumis (Cucumber, Melon, Gherkin, Water Melon, Snake Cucumber, Bitter Apple, Colocynth, Apple Cucumber, Cucumber Vine).—*Ord.* Cucurbitaceæ. Half-hardy trailing perennial fruiting plants. *Nat.* (cucumber) E. Indies, Jamaica, Africa; (melon) Asia, Himalayas. *Int.* (cucumber)

1573; (melon) 1570. *Ht.* 3 to 8 ft. *Species* cultivated, 2 cucumbers, 2 melon; varieties many. *Flowers*, yellow. *Fruit*, oblong or globular. *Culture of Cucumbers*: *Compost*, two parts decayed turfy loam, one part horse droppings or decomposed manure. *Position*, pots or beds in heated or cold greenhouse & frames, or in shelter d corner outdoors in sum. *Sow* seed in Feb. or Mar. for heated greenhouse or frame in sum., Ap. for cold frames or outdoors, Sept. or Oct. for winter use. *Plant*, Mar., Ap., Sept., or Oct. in heat; June in cold frames or outdoors. *Train* main shoot up roof of greenhouse, pinching out its point when 3 ft. high, also points of side (lateral) shoots at first joint beyond the young fruit; or, when grown in frames, along surface of bed, removing point of main shoot when a foot long & points of side shoots at first joint beyond young fruit. *Prune* away old shoots that cease to bear & train young ones in their stead. *Water* moderately at first, freely afterwards. *Syringe* twice daily. *Apply* liquid manure to plants bearing heavy crops only. *Ventilate* when temp. reaches 90°, closing again when it falls below this. *Temp.*, Feb. to Sept., for greenhouse & frames, 75° to 85°; Sept. to Feb. 65° to 75°. *Shade* from hot sun. *Fertilize* first female blooms by divesting a male bloom of its petals & applying powdery parts to centre of former; fertilization not needful afterwards, except seed is wanted. *Fumigate* occasionally to destroy insects. *Culture of Gherkins*: *Dig* a hole in May 2 ft. deep & 3 ft. wide in a sunny position, putting soil on north side. *Fill* hole with heated manure & cover with 3 in. of soil. *Plant* at once. *Train* as advised above. *Water* moderately at first, freely afterwards. *Protect* with handlight unil end of June. *Sow* seeds in light soil in temp. 55° in Ap. *Culture of Melons*: *Compost*, three parts good turfy loam, one part decayed manure. *Position*, beds in greenhouses, pits, or frames, with shoots trained to roof or along surface of ground. *Plant*, Mar., Ap. or May. *Sow* seeds singly in 2-in. pots in temp. 75° in Feb. or Mar. *Pinch* out point of main shoot when 6 in. long, also of lateral shoots when 1 ft. long, & further shoots at the first joint beyond the young swelling fruit. *Fertilize* all the female blooms about 12 a.m. as directed for cucumbers. Allow one fruit to each shoot, removing any others gradually. *Prune* away any weak shoots not showing fruit. *Water* moderately at first, freely afterwards, less when fruit changes colour. *Syringe* twice daily until fruit begins to ripen, then cease. *Shade* from hot sun. *Apply* liquid manure when fruit begins to swell. *Temp.*, Mar. to time fruit is ripe, 75° to 85°. *Ventilate* when temp. reaches 85°, close when it falls below this. *Propagate* by seeds sown in light soil in temp. 75° in Mar., Ap., May or Sept.; cuttings of shoots 3 in. long, inserted singly in small pots of light soil, in temp. 75° to 80° at any time.

Cucurbita (Gourd, Pumpkin, Squash, Vegetable Marrow).—*Ord.* Cucurbitaceæ. Half-hardy trailing annual edible or non-fruited plants. *Nat.* India, Levant. *Int.* 1570. *Ht.* 3 to 16 ft. *Species* cultivated, about 4; varieties many. *Flowers*, yellow, male & female distinct. *Fruit*, globular, oval, or oblong. *Culture of Marrows & Pumpkins*: *Soil*, ordinary, rich. *Position*, beds in frames, on heaps of decayed manure or refuse, or on banks, the shoots running down the slope. *Sow* seeds in a temp. of 55° in Ap., or where the plants are intended to grow in May. *Plant*, May, under handlight, or in June without protection. *Beds* in open garden formed by digging out soil 15 in. deep, filling holes with heated manure & covering this with soil. *Pinch* out points of main shoots when 18 in. long; no pinching required afterwards. *Fertilize* first female blooms; not later ones. *Water* freely in dry weather. *Apply* liquid manure frequently after fruit is set. *Fruit* for preserving should be cut when yellow & then hung up in a dry room till wanted for use. Young shoots of marrows & gourds may be used as a substitute for spinach. *Culture of Gourds*: *Soil*, rich, ordinary. *Position*, beds at base of low, sunny fences or walls, or on the summit of banks, shoots growing at will up & over the former or down the latter; sunny. *Plant*, June. *Water* freely in dry weather. *Apply* liquid manure occasionally when plants are laden with fruit.

Gather fruit when yellow, & hang it up till wanted for use in dry room. No pinching of shoots required. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° to 65° in Ap., or where plants are to grow in May & June.

Gull-me-to-you (*Viola tricolor*)—see *Viola*.

Cultivated Olive-tree (*Olea saliva*)—see *Olea*.

Calverkeys (*Scilla nutans* & *Primula variabilis*)—see *Scilla* & *Primula*.

Cunonia (Red Alder).—*Ord.* Saxifragaceæ. Greenhouse evergreen flowering tree. *Nat.* Cape of Good Hope. *Int.* 1816. *Ht.* 10 to 50 ft. *Species* cultivated, 1. *Flowers*, white; *Aug.* *Compost*, equal parts sandy loam & peat. *Position*, pots in light airy greenhouse. *Pot*, Mar. *Prune* into shape in Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. of 65° to 75° in sum.

Cupania (West Indian Chestnut).—*Ord.* Sapindaceæ. Stove orn. foliage evergreen tree. *Nat.* S. America, W. Indies. *Int.* 1818. *Ht.* 20 to 30 ft. *Species* cultivated, 1. *Flowers*, yellow; *Mar.* *Compost*, equal parts loam & peat. *Position*, pots in moist plant stove. *Pot*, Mar. *Water* moderately in winter, freely other times. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. of 85° in sum.

Cup Fern (*Cyathea arborea*)—see *Cyathea*.

Cup Goldilocks (*Trichomanes radicans*)—see *Trichomanes*.

Cuphea (Mexican Cigar Flower).—*Ord.* Lythraceæ. Greenhouse evergreen flowering plant. *Nat.* Mexico. *Int.* 1845. *Ht.* 10 to 12 in. *Species* cultivated, 1. *Flowers*, scarlet, black, white; *June* to *Sept.* *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, 5 or 6 in. pots in greenhouse, or in beds outdoors in sum. *Pot* Mar. or Ap. *Plant* outdoors in June. *Water* moderately Oct. to Mar.; freely afterwards. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown in light soil in temp. 65° to 75° in Mar.; cuttings of young shoots inserted in sandy soil in temp. 65° to 75° in Mar., Ap., or Aug.

Cupidone (*Catananche cœrulea*)—see *Catananche*.

Cupid's-flower (*Quamoclit vulgaris*)—see *Quamoclit*.

Cupressus (Cypress, Ginger Pine, Oregon White Cedar, Orford Cedar, White Cedar).—*Ord.* Conifereæ. Hardy evergreen coniferous trees. *Orn.* foliage. *Nat.* California, China, Mexico, S. Europe, Himalayas. *Int.* 1518. *Ht.* 4 to 100 ft. *Species* cultivated, 11; varieties, 26. *Habit*, upright, spreading & pendulous. *Leaves*, small, dark green or glaucous; variegated yellow & white. *Soil*, deep rich loam. *Position*, sheltered on lawns or in shrubberies. *Plant*, Sept., Oct. or Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors a year afterwards; cuttings of young branchlets 2 in. long, inserted in sandy soil in cold frame, or under handlight, in Sept. or Oct.

Cups-and-Saucers (*Cobæa scandens*)—see *Cobæa*.

Curculigo (Weevil-plant).—*Ord.* Amaryllidaceæ. Stove orn. evergreen foliage plants. *Nat.* E. Indies. *Int.* 1805. *Ht.* 1 to 3 ft. *Species* cultivated, 1; varieties, 2. *Leaves*, strap-like, recurved, dark green, variegated with white. *Compost*, equal parts lumpy peat & loam, & little silver sand. *Position*, pots in moist plant stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 75° to 85°. *Propagate* by suckers inserted in small pots of sandy soil in temp. 85° in Mar.

Curcuma (Turmeric, East Indian Arrowroot).—*Ord.* Scitaminaceæ. Stove herbaceous perennials. *Nat.* Australia, E. Indies, Ceylon. *Int.* 1759. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, white, yellow, red, scarlet;

CURLED-LEAVED BOX ELDER.**CUT-LEAVED WEEPING BIRCH.**

May to Nov. *Compost*, two parts peat, one part loam. & little sand. *Position*, pots in plant stove. *Pot*, Feb. or Mar. *Water* freely Ap. to Oct., very little afterwards. *Temp.*, Oct. to Feb. 55° to 65°; Feb. to Oct. 75° to 85°. *Leaves* die off after Oct. & re-appear in Feb. *Propagate* by division of roots in Feb. or Mar.

Curled-leaved Box Elder (*Acer Negundo crispum*)—see *Acer*.

Curled-leaved Elm (*Ulmus montana* var. *crispa*)—see *Ulmus*.

Curled-leaved Rockrose (*Cistus crispus*)—see *Cistus*.

Curled-leaved St. John's-wort (*Hypericum crispum*)—see *Hypericum*.

Curled Maple (*Acer saccharinum*)—see *Acer*.

Curled Rock Brake Fern (*Allosorus crispus*)—see *Allosorus*.

Curly Palm (*Kentia Belmoreana*)—see *Kentia*.

Currant (*Ribes nigrum* & *rubrum*).—*Ord.* Grossulariaceæ. **Hardy** deciduous fruiting shrubs. *Nat.* Britain, Europe. *Ht.* 4 to 5 ft. *Species* cultivated, 2; varieties, 15. *Flowers*, green; *Ap.* *Fruit*, white, red & black. *Soil*, deep rich loam. *Position*, open garden or against walls & fences. *Plant* bushes 5 ft. apart each way in open garden; 3 ft. apart against walls. *Time to plant*, Oct. to Feb. *Depth for roots*, 4 to 6 in. *Mode of bearing*: Red & white currants bear fruit at base of shoots of previous year's shoots, also on old spurs; black currants along entire length of previous year's shoots. *Prune* red & white currants in June or July, shortening to within half an inch of base all young shoots except one at end of each branch, which cut back one third, also in Dec. cut away old or unsightly branches; black currants in Dec., simply thinning out dead or weak shoots. *Protect* fruit in June & July by covering trees with nets. *Retard* ripening by covering trees with mats or sheeting in July. *Gather* fruit in fine weather only. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Sept. or Oct.; cuttings of current year's shoots, 8 in. long, with buds on lower part rubbed off, inserted half their depth outdoors in Nov.; layering shoots in Oct. or Nov.; suckers removed & planted in Oct., Nov. or Dec.

Currant-leaved Alum-root (*Heuchera ribifolia*)—see *Heuchera*.

Cushion Fern (*Dicksonia culcita*)—see *Dicksonia*.

Cushion Pink (*Silene acaulis* & *Armeria maritima*)—see *Silene* & *Armeria*.

Custard Cups (*Epilobium hirsutum*)—see *Epilobium*.

Cut-finger (*Valeriana officinalis* & *Vinca major*)—see *Valeriana* & *Vinca*.

Cut-heal (*Valeriana officinalis*)—see *Valeriana*.

Cut-leaved Beech (*Fagus sylvatica* var. *incisa*)—see *Fagus*.

Cut-leaved Birch (*Betula populifolia* var. *laciniata*)—see *Betula*.

Cut-leaved Cone-flower (*Rudbeckia laciniata*)—see *Rudbeckia*.

Cut-leaved Elder (*Sambucus nigra* var. *laciniata*)—see *Sambucus*.

Cut-leaved Filbert (*Corylus Avellana* var. *laciniata*)—see *Corylus*.

Cut-leaved Lime-tree (*Tilia europæa* var. *laciniata*)—see *Tilia*.

Cut-leaved Maple (*Acer dissectum*)—see *Acer*.

Cut-leaved Norway Maple (*Acer platanoides* var. *laciniatum*)—see *Acer*.

Cut-leaved Persian Lilac (*Syringa persica* var. *laciniata*)—see *Syringa*.

Cut-leaved Speedwell (*Veronica incisa*)—see *Veronica*.

Cut-leaved Sumach (*Rhus glabra* var. *laciniata*)—see *Rhus*.

Cut-leaved Walnut-tree (*Juglans regia* var. *laciniata*)—see *Juglans*.

Cut-leaved Weeping Birch (*Betula incisa* var. *penulula*)—see *Betula*.

Cyananthus (Hoary-leaved Cyananth, Lobe-leaved Cyananth).—*Ord.* Campanulacæ. Hardy alpine herbaceous perennials. *Nat.* Sikkim, Himalayas. *Int.* 1844. *Ht.* 3 to 4 in. *Species* cultivated, 2. *Flowers*, azure-blue, purplish blue; Aug. to Sept. *Compost*, equal parts sandy peat & leaf-mould. *Position*, sunny banks or crevices of rockeries. *Plant*, Mar. or Ap. *Protect* in severe weather with ashes or leaves. *Propagate* by cuttings of shoots 2 in. long inserted in sandy peat, in Ap., May, or June, & kept under bell-glass; division of fleshy roots in Mar. or Ap.

Cyanella.—*Ord.* Liliacæ. Half-hardy bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1768. *Ht.* 10 to 12 in. *Species* cultivated, 3. *Flowers*, purple, yellow, rose, fragrant; July to Aug. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure. *Position*, pots $4\frac{1}{2}$ in. in diameter, well drained, in cold frame or greenhouse. *Pot*, Oct., placing five bulbs 2 in. deep in each pot, & covering pots with cocoanut-fibre refuse until growth begins. *Water* moderately when bulbs begin to grow; keep bulbs dry Sept. to Jan. *Propagate* by offsets in Nov.

Cyanophyllum.—*Ord.* Melastomacæ. Stove evergreen orn. foliaged plants. *Nat.* Brazil, Mexico. *Int.* 1858. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Leaves*, broad, upper surface velvety green, under side reddish purple. *Compost*, equal parts fibrous peat & leaf-mould, fourth part silver sand. *Position*, pots in moist shady plant stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Syringe* foliage Mar. to Sept. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by seeds sown in fine light compost in temp. 85° in Mar. or Ap.; cuttings of shoots of stems inserted in light soil in temp. 85° to 90° in spring.

Cyathea (Tasmanian Cup Fern, Silvery Tree Fern, Black-stemmed Tree Fern, Grey Tree Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* W. Indies, New Zealand, Natal, Ceylon, Mauritius, Philippine Islands. *Int.* 1793. *Ht.* 5 to 20 ft. *Species* cultivated, 8 stove & 4 greenhouse. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs, well drained, in shady stove, greenhouse, or conservatory. *Repot*, Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse; Mar. to Sept. 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans; cover with sheet of glass, & keep moist in shady position in temp. 75° to 85°.

Cycas (Sago Palm, Fern Palm).—*Ord.* Cycadacæ. Stove herbaceous perennials. Orn. foliage. *Nat.* China, E. Indies, Australia, N. S. Wales. *Ht.* 3 to 7 ft. *Species* cultivated, 4. *Fronds* feathery shaped, dark green. *Compost*, two parts turfy loam, one part silver sand. *Position*, well drained pots in moist plant stove. *Repot*, Feb. & Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 75° to 80°; Sept. to Mar. 55° to 65°. *C. revoluta* may be stood outdoors in sheltered position from June to Sept. *Propagate* by seeds sown 1 in. deep in light soil in temp. 85° to 90° in Mar. or Ap.; suckers obtained from base of plants inserted in small pot in temp. 80° to 85° at any time.

Cyclamen (Apple of the Earth, Mitre-flower, Bleeding Nun, Sow-head).—*Ord.* Primulacæ. Hardy & greenhouse perennial flowering plants. Tuberos-rooted. Deciduous. *Nat.* Algeria, Asia, Caucasus, Greece, Palestine, Europe, Syria. *Int.* 1596. *Ht.* 3 to 12 in. *Species* cultivated, 9; varieties many. *Flowers*, white, rose, purple, fragrant; Aug. to Nov., Feb. to Ap. *Culture of Greenhouse species*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in greenhouse Sept. to May; cold frame other times. *Repot*, July or Aug.; corm to be above surface of soil. *Water* moderately until new growth begins, then increase supply, decreasing it when plants have ceased to flower; keeping roots dry & cool May to July. *Apply*

liquid manure when in flower. *Temp.*, Sept. to Ap. 50° to 55°. *Corms* should not be grown for more than two years. Best results obtained from seedling plants one year old. *Shade* from sun essential. *Culture of Hardy species*: *Soil*, rich, friable loam containing plenty of leaf-mould. *Position*, sheltered partially shady nooks of rockery or in turf under trees. *Plant*, Aug. or Sept., 2 or 3 in. apart & 1½ in. deep. *Top-dress* with cow manure & rich soil annually after leaves die down, first removing old soil as far as corms. *Propagate* greenhouse kinds by seed sown ¼ in. deep & 1 in. apart in well drained pans of light soil in temp. 55° in Nov. or Feb.; hardy species by seeds sown similarly in cold frame in Oct. or Nov., transplanting seedlings following spring. *Cover* surface of soil in seed pans with layer of moss to keep soil uniformly moist.

Cyclamen-flowered Daffodil (*Narcissus cyclamineus*)—see *Narcissus*.

Cyclamen-leaved Windflower (*Anemone palmata*)—see *Anemone*.

Cycnoches (Swan's-neck Orchid).—*Ord.* Orchidaceæ. *Stove* deciduous orchids. *Nat.* America, Demerara, Mexico, Columbia, Brazil, Guatemala. *Int.* 1830. *Ht.* 1 to 2 ft. *Species* cultivated, 11. *Flowers*, green, buff, brown, yellow, salmon, purple; June to Sept. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off; very little other times. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Growing period*, Feb. to Aug. *Resting period*, Sept. to Feb. *Propagate* by division of plants at potting time.

Cydonia (Japanese, Portugal, & Common Quince).—*Ord.* Rosaceæ. *Hardy* deciduous flowering & orn. fruiting trees & shrubs. *Nat.* China, Japan (quince), S. Europe. *Int.* 1573. *Ht.* 6 to 20 ft. *Species* cultivated, 4; variety 1. *Flowers*, scarlet, red, white; Ap. to June. *Fruit*, green, yellow; ripe in Oct. *Soil*, ordinary. *Position*, open, sunny for quince; south, east, or west walls for Japanese quince. *Plant*, Oct. to Feb. *Depth for roots*, 6 in. *Prune* Nov. or Dec., shortening current year's shoots to 1 in., except those at end of main branches, which shorten one third. *Gather* fruit in Oct. & store in cool room till yellow, then use. *Propagate* by seeds sown 1 in. deep outdoors in Nov.; cuttings of current year's shoots, with portion of old wood attached, inserted in ordinary soil outdoors in Oct.; layering shoots in Oct. or Nov.

Cymbidium.—*Ord.* Orchidaceæ. *Stove* terrestrial orchids. *Nat.* Australia, Africa, Japan, New Caledonia, Malay, China, India, Java. *Int.* 1789. *Ht.* 2 to 3 ft. *Species* cultivated, about 18. *Flowers*, white, greenish yellow, red, purple, chocolate, fragrant; Dec. to Aug. *Compost*, equal parts rough fibry peat, sphagnum moss & sand. *Position*, pots, well drained. *Repot*, Feb. or Mar. *Water* freely in sum., moderately in winter. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 65°. *Growing period*, Mar. to Aug. *Resting period*, Sept. to Feb. *Propagate* by division of plant at potting time.

Cynoglossum (Common Dog's-tongue, Gipsy flower, Wild Comfrey, Hound's-tongue).—*Ord.* Boraginaceæ. *Hardy* biennials & perennials. *Nat.* Britain, Europe, U.S. America. *Int.* (foreign species) 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 1 perennial, 4 biennials. *Flowers*, rose, red, white, purple, blue; June to Aug. *Soil*, ordinary. *Position*, borders, open or shady. *Plant* perennial Oct. or Mar. *Propagate* biennials by seeds sown outdoors in Mar. or Ap., transplanting seedlings to permanent positions in June or July, to flower following year; perennials by seeds similarly, or division of roots in Oct. or Mar.

Cyperus (Umbrella plant, Sweet Cyperus, Cypress-root, Galingale).—*Ord.* Cyperaceæ. *Greenhouse* & hardy perennials. *Orn.* foliage. *Nat.* Australia, Britain, Europe, Africa, W. Indies. *Ht.* 1 to 4 ft. *Species* cultivated, 3; variety 1. *Foliage*, grass-like, dark green or variegated with white. *Culture of Greenhouse species*: *Compost*, two parts loam, one leaf mould & sand.

Position, pots in shady greenhouse. *Water* moderately in winter, freely other times. *Repot*, Feb. to Mar. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 55°. *Culture of Hardy species*: *Soil*, mud. *Position*, margins of lakes, ponds, etc. *Plant*, Oct. or Mar. *Propagate* by seeds sown in shallow boxes or pans of light soil in temp. 55° to 65° in Mar. or Ap.; division of roots in Mar. or Ap.

Cyphomandra (Tree Tomato).—*Ord.* Solanaceæ. Greenhouse evergreen orn. foliage & fruiting shrub. *Nat.* Brazil. *Int.* 1836. *Ht.* 5 to 12 ft. *Species* cultivated, 1. *Flowers*, purple, green; spring. *Fruit*, large, egg-shaped, red; ripe in Aug. & Sept. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in light sunny greenhouse. *Pot*, Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Sept. 55° to 65°. *Prune* plants into shape Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° to 85° in Mar. or Ap.; cuttings of side shoots 3 in. long inserted in sandy soil under bell-glass in temp. 75° to 80°.

Cypress Broom (*Taxodium capense*)—see *Taxodium*.

Cypress Oak (*Quercus pedunculata fastigiata*)—see *Quercus*.

Cypress-root (*Cyperus longus*)—see *Cyperus*.

Cypress Vine (*Quamoclit vulgaris*)—see *Quamoclit*.

Cypripedium (Lady's Slipper, Mocassin-flower, American Valerian, Nerve-root, Noah's Ark, Umbel).—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy orchids. *Nat.* U.S. America, Phillipines, Canada, Malacca, Moulmein, Borneo, Russia, Siberia, Java, Mexico, Japan, N. America, Asia, England, India. *Int.* (foreign species) 1731. *Ht.* 6 to 12 in. *Species* cultivated, 26 stove, 4 greenhouse, 10 hardy. *Flowers*, various; all times of the year. *Stove culture*: *Compost*, two parts rough fibry peat, one part sphagnum moss & sand. *Position*, pots or pans drained one-third of their depth. *Repot*, Mar. or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 65°. *Greenhouse culture*: *Compost & position*, same as above. *Repot*, Ap. *Water* freely Ap. to Aug., moderately other times. *Temp.*, Mar. to Sept. 60 to 65°; Sept. to Mar. 50° to 55°. *Culture of Hardy species*: *Compost*, equal parts loam, leaf-mould, road grit & small stones. *Position*, partially shady sheltered nooks on rockery. *Plant*, Mar. or Ap. *Water* in dry weather. *Propagate* all the species by division of the roots at potting or planting time.

Cyrtanthus.—*Ord.* Amaryllidaceæ. Greenhouse bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1774. *Ht.* 6 to 12 in. *Species* cultivated, 6 deciduous, 1 evergreen. *Flowers*, orange, red, scarlet, white, fragrant; Feb. to Aug. *Compost*, two parts loam, one part sand & peat. *Position*, well drained pots on shelf in light greenhouse. *Pot* bulbs in Oct. or Nov., 2 in. deep. *Water* freely Mar. to Oct., very little other times. *Temp.*, Nov. to Ap., 50° to 55°; Ap. to Nov. 60° to 65°. *Propagate* by offsets in Nov.

Cyrtoceras (Manilla Wax-plant).—*Ord.* Asclepiadaceæ. Stove evergreen climbing plant. *Nat.* Borneo. *Int.* 1838. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, buff; Aug. *Compost*, equal parts fibry peat & sandy loam, one fourth small pieces of charcoal. *Position*, small pots, well drained, shoots trained on wire trellis or on roof of plant stove. *Water* moderately Ap. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm shoots 3 in. long inserted in sand under bell-glass in temp. 75° to 85° from Mar. to July.

Cyrtochilum.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Central America, Vera Cruz. *Int.* 1837. *Ht.* 4 to 6 in. *Species* cultivated, 2. *Flowers*, citron, green, purple; Dec. to Ap. *Compost*, rough fibrous peat & charcoal. *Position*, well drained pots or on blocks of wood suspended from roof. *Pot & reblock*, Feb. or Mar. *Water* freely Ap. to Aug., moderately

other times. *Temp.*, Feb. to Oct. 65° to 85°; Oct. to Feb. 50° to 60°. *Growing period*, Ap. to Aug. *Resting period*, Aug. to Ap. *Propagate* by division of pseudo-bulbs in Feb. or Mar.

Cyrtopodium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Trop. America, E. Indies, Brazil, Sikkim. *Int.* 1804. *Ht.* 3 to 5 ft. *Species* cultivated, 4. *Flowers*, yellow, brown, red, purple, rose; Ap. to Aug. *Compost*, two parts rich fibrous loam & decayed manure. *Position*, large pots or pans, well drained, in plant stove. *Pot*, Mar. or Ap. *Water* freely Ap. to Aug., moderately Aug. to Nov., afterwards keep nearly dry. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 60° to 70°. *Growing period*, Mar. to Aug. *Resting period*, Aug. to Mar. *Propagate* by division of pseudo-bulbs at potting time.

Cytisus (Milk-trefoil, Shrub-trefoil, Tree-trefoil, Portugal Laburnum, Pigmy Laburnum, Austrian Laburnum, Two-flowered Laburnum, Canary Islands Laburnum, Clustered-flowered Laburnum, Thread-stemmed Laburnum, Hairy Laburnum, Black-rooted Broom, Proliferous Laburnum, Purple-flowered Laburnum, Evergreen Laburnum, Stalkless-flowered Laburnum, Adam's Laburnum).—*Ord.* Leguminosæ. Greenhouse & hardy deciduous & evergreen flowering shrubs. *Nat.* Spain, Portugal, Maritime Alps, Europe, Hungary, Canary Islands, Teneriffe. *Int.* 1629. *Ht.* 4 in. to 10 ft. *Species* cultivated, 9 hardy, 3 greenhouse. *Flowers*, white, yellow, purple; Ap. to Aug. *Culture of Hardy species*: *Soil*, ordinary, rich. *Position*, rockery for *C. Arduini*, shrubby borders for other species. *Plant*, Oct., Nov., or Dec. *Prune* into shape after flowering. *Culture of Greenhouse species*: *Compost*, two parts turfy loam, one part lumpy peat & sharp sand. *Position*, pots in greenhouse. *Pot*, May or June. *Prune* shoots to within 2 in. of base directly after flowering, & place plants in temp. 50° to 55° to make new growth before potting. *Place* plants in sunny position outdoors from end of July to Oct. to ripen growth. *Water* freely Mar. to May, moderately during May & June, freely June to Nov., moderately afterwards. *Apply* weak liquid or artificial manure to plants during time they're in flower. *Temp.*, Nov. to Feb. 45° to 60°; Feb. to May, 50° to 55°; May to June, 55° to 60°. *Propagate* greenhouse species by cuttings of young shoots 3 in. long, with small portions of branches attached, inserted in sandy soil in well drained pots under bell-glass in temp. 75° to 80° in Mar., Ap. or May; seeds sown $\frac{1}{4}$ in. deep in well drained pots of light soil in temp. 65° to 70° in Mar.; hardy species by seeds sown $\frac{1}{4}$ in. deep outdoors in Mar. or Ap.; layers in Oct. or Nov.; grafting in Mar. or Ap.

Cystopteris (Alpine Bladder Fern, Narrow-fronded Bladder Fern, Toothed Bladder Fern, Brittle Bladder Fern, Mountain Bladder Fern).—*Ord.* Filices. Hardy deciduous ferns. *Nat.* Mountains of Europe, Asia Minor, Temp. regions of N. Hemisphere, N. America. *Int.* (foreign species) 1638. *Ht.* 6 to 9 in. *Species* cultivated, 4. *Soil*, rich, deep, sandy loam, freely mixed with pieces of limestone or dried mortar. *Position*, well drained shady sheltered rockery. *Plant*, Mar. or Ap. *Water* moderately in dry weather. *Pot culture*: *Compost*, two parts good loam, one part leaf-soil mixed with old mortar or sand. *Position*, well drained in cold frame in shade. *Repot*, Mar. or Ap. *Water* freely Ap. to Sept., moderately Sept. to Nov., keeping nearly dry afterwards. *Propagate* by spores sown on surface of fine sandy soil in shallow boxes or pans, cover with sheet of glass, & place in cold frame at any time; division of plant in Mar. or Ap.

Dabœcia (Irish St. Dabeoc's Heath).—*Ord.* Ericaceæ. Evergreen flowering shrub. *Nat.* Ireland, S. W. Europe, Azores. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, rose, purple; June to Sept. *Compost*, sandy peat & loam. *Position*, sunny banks or rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by cuttings inserted in sandy soil in sum. under hand-light; layers of shoots in autn.

Dacrydium (Huon Pine of Tasmania, Imou Pine, Red Pine).—*Ord.*

Coniferae. Hardy evergreen orn. foliage tree. *Nat.* Tasmania, New Zealand. *Int.* 1825. *Ht.* 16 to 100 ft. *Species* cultivated, 2. *Habit*, pyramidal, pendulous. *Compost*, sandy loam & peat. *Position*, sheltered; S. of England only. *Plant*, Oct. or Ap. *Propagate* by cuttings of firm shoots inserted in sandy peat under bell-glass in temp. 55° to 65° in Aug. or Sept.

Dactylis (Cock's-foot Grass, Dew Grass, Hard Grass, Orchard Grass, Sticky Grass, Golden Edge Grass).—*Ord.* Gramineæ. Hardy orn. grass. *Nat.* Britain, Europe, Central Asia. *Ht.* 8 to 20 in. *Species* cultivated, 1; variety 1. *Leaves*, variegated with white. *Soil*, ordinary. *Position*, variegated kind, margins of flower beds or borders in sun or shade, or mixed with bedding plants; common species, margins of ponds or moist places. *Plant*, Oct. or Ap., 3 to 6 in. apart. *Propagate* by division of plants in Oct. or Ap.

Dadder Grass (*Briza media*)—see *Briza*.

Dæmonoreps (Rope Palm).—*Ord.* Palmaceæ. Stove orn. foliage plant. *Nat.* India, Sumatra, Java, Malay Archipelago. *Int.* 1870. *Ht.* 4 to 15 ft. *Species* cultivated, 3. *Leaves*, pinnate, armed with spines, deep green. *Compost*, two parts turfy loam, one part leaf-mould & coarse sand. *Position*, well drained pots in shade. *Pot* firmly in Mar. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar., 60° to 65°; Mar. to Sept. 80° to 85°. *Propagate* by seeds sown in temp. 80° in Mar.; suckers growing from roots inserted in small pots of sandy soil under bell-glass in temp. 80°.

Daffadowndilly (*Narcissus Pseudo-narcissus*)—see *Narcissus*.

Daffodil (*Narcissus Pseudo-narcissus*)—see *Narcissus*.

Daffodil Garlic (*Allium neapolitanum*)—see *Allium*.

Daffodil Lily (*Amaryllis belladonna*)—see *Amaryllis*.

Dagger-flower (*Aster tanacetifolius*)—see *Aster*.

Dagger-plant (*Yucca gloriosa*)—see *Yucca*.

Dahlia.—*Ord.* Compositæ. Half-hardy herbaceous tuberous-rooted perennials. *Nat.* Central America, Mexico. *Int.* 1789. *Ht.* 3 to 5 ft. *Species* cultivated, 7; varieties many. *Types in cultivation*, single, pompon, show, fancy, cactus or decorative. *Character of types*: Single, six petals; pompons, several petals, incurved, bloom double & small; show, numerous petals, incurved, large double blooms; fancy, same as show in form, but striped or spotted with various colours; cactus or decorative, semi-double blooms, reflexed petals. *Flowers*, various; sum. & autn. *Outdoor culture*: *Soil*, ordinary, well enriched with manure. *Position*, open sunny beds or borders. *Plant* tubers 3 in. deep in Ap., or start them to grow in pots in temp. 55° in Mar., planting outdoors in May or June. *Thin* shoots to three on each plant in July; flower buds to one on each shoot in Aug. *Apply* liquid manure occasionally in July, Aug. & Sept. *Lift* & store tubers in frost-proof place in Oct., just covering them with soil or cocoanut-fibre refuse. *Cut* down stems to within 6 in. of tubers before lifting. *Tubers* may be left in the ground all the year round on dry soils, if surface is covered with layer of cinder-ashes. *Culture in pots*: *Compost*, two parts turfy loam, one part decayed manure. *Place* tubers in well drained 6-in. pots in Mar. in temp. 55°. *Water* moderately & keep close to glass. *Transfer* to 8-in. pots in May. *Stand* plants outdoors in June. *Apply* liquid manure in July. *Thin* shoots to three on each plant; flower buds to one on each shoot in Aug. *Withhold* water after flowering & store away in frost-proof place. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° in Mar.; cuttings of shoots 3 in. long issuing from tubers, inserted in 2-in. pots of sandy soil, in temp. 65° to 70° in Feb., Mar. or Ap.; division of tubers in Mar. or Ap.; grafting shoots on tubers in autn. or spring.

Dahurian Bell-flower (*Campanula dahurica*)—see *Campanula*.

Dahurian Bindweed (*Calystegia dahurica*)—see *Calystegia*.

Dahurian Buckthorn (*Rhamnus dahuricus*)—see *Rhamnus*.

- Dahurian Guelder Rose** (*Viburnum dahuricum*)—see *Viburnum*.
- Daisy-bush** (*Olearia Haastii*)—see *Olearia*.
- Daisy Fleabane** (*Erigeron annuus* & *E. strigosus*)—see *Erigeron*.
- Daisy-leaved Sea Lavender** (*Statice bellidifolia*)—see *Statice*.
- Daisy-leaved Soapwort** (*Saponaria bellidifolia*)—see *Saponaria*.
- Daisy-leaved Speedwell** (*Veronica bellidoides*)—see *Veronica*.
- Daisy Star** (*Bellidiastrum Michellii*)—see *Bellidiastrum*.
- Daisy-tree** (*Olearia Haastii*)—see *Olearia*.
- Dalechampia**.—*Ord.* Euphorbiaceæ. Stove flowering evergreen shrubs. *Nat.* Vera Cruz. *Int.* 1867. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, insignificant. *Bracts*, rich carmine, rose, fragrant; *sum.* *Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, shady part of plant stove. *Pot.* *Mar.* *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings inserted in sandy peat under bell-glass in Mar., Ap. or May, in temp. 85°.
- Dalibarda** (False Violet).—*Ord.* Rosaceæ. Hardy creeping evergreen perennial. *Nat.* N. America. *Int.* 1768. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, white; May & June. *Soil*, sandy peat. *Position*, sheltered rockery. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.
- Dalmatian Cap** (*Tulipa gesneriana*)—see *Tulipa*.
- Dalmatian Crocus** (*Crocus dalmaticus*)—see *Crocus*.
- Dalmatian Strawberry** (*Arbutus unedo*)—see *Arbutus*.
- Damascus Crocus** (*Crocus damascenus*)—see *Crocus*.
- Damask Rose** (*Rosa damascena*)—see *Rosa*.
- Dame's Rocket** (*Hesperis matronalis*)—see *Hesperis*.
- Dame's Violet** (*Hesperis matronalis*)—see *Hesperis*.
- Damsel**—another name for Damson.
- Damson** (*Prunus domestica* var. *damascena*).—*Ord.* Rosaceæ. Hardy deciduous fruit-bearing tree. *Nat.* England. *Varieties* cultivated, 6. *Fruit*, round or oval, yellow or purple; Sept. & Oct. *Soil*, moderately rich deep loam. *Position*, south aspect, well drained site. *Shape of trees*, standard, pyramidal, or bush. *Plant* bush-trained trees 5 ft. apart; pyramidal, 15 ft.; standards, 20 ft., in Nov., Dec. or Jan. *Depth for roots*, 6 in. *Prune* in Dec., simply cutting away old branches or weak shoots and moderately shortening strong ones. *Propagate* by seeds (stones) sown 1 in. deep outdoors in Oct., Nov. or Dec.
- Dandelion-leaved Evening Primrose** (*Oenothera taraxacifolia*)—see *Oenothera*.
- Dandolos Mulberry-tree** (*Morus alba* var. *Morettiana*)—see *Morus*.
- Dane ball** (*Sambucus ebulus*)—see *Sambucus*.
- Danebrog Poppy** (*Papaver somniferum*)—see *Papaver*.
- Dane's-blood** (*Anemone pulsatilla*, *Campanula glomerata*, & *Sambucus ebulus*)—see *Anemone*, *Campanula*, & *Sambucus*.
- Dane's-weed** (*Eryngium campestre* & *Sambucus ebulus*)—see *Eryngium* & *Sambucus*.
- Daniel's Azalea** (*Azalea Danielsiana*)—see *Azalea*.
- Danish Whitlow Grass** (*Draba aurea*)—see *Draba*.
- Daphne** (Garland-flower, Copse Laurel, Dwarf Bay, Spurge Laurel, Wood Laurel, Mezereon, Mysterious Plant, Spurge Flax, Spurge Holly).—*Ord.* Thymelacææ. Greenhouse & hardy evergreen flowering shrubs. *Nat.* Europe, China, Japan, Britain, Siberia. *Int.* (foreign species) 1752. *Ht.* 1 to 4 ft. *Species* cultivated, 12 hardy, 4 greenhouse. *Flowers*, white, pink, lilac, yellow, red, purple, fragrant; Jan. to July. *Culture of Greenhouse species*: *Compost*, two parts loam, one part peat & sand. *Position*, airy greenhouse from Sept. to June, outdoors June to Sept. *Pot.* Feb. *Pinch* out points

of young shoots in June. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 65°. *Culture of Hardy species*: *Soil*, sandy peat. *Position*, drooping over front of rockeries for trailing species; summit of rockery or open border for erect species. *Plant*, (Oct., Nov., Mar. or Ap. *Propagate* by cuttings of side shoots inserted, in Oct. or Nov., in well drained pots or pans of sandy peat under bell-glass in temp. 60° to 55°; layers in Mar. or Ap.; grafting on *D. laureola* & *D. pontica* in spring.

Dark-coloured Dwarf Bell-flower (*Campanula pulla*)—see Campanula.

Dark-crimson Cinquefoil (*Potentilla atrosanguinea*)—see Potentilla.

Dark-flowered Crocus (*Crocus obscurus*)—see Crocus.

Dark-flowered Meadow-rue (*Thalictrum atropurpureum*)—see Thalictrum.

Dark-flowered Orchis (*Orchis nigra*)—see Orchis.

Dark-flowered Stock (*Matthiola tristis*)—see Matthiola.

Dark-purple-flowered Black Currant (*Ribes atropurpureum*)—see Ribes.

Dark-purple Grape Hyacinth (*Muscari commutatum*)—see Muscari.

Dark-purple Helen-flower (*Helenium atropurpureum*)—see Helenium.

Dark-purple Hellebore (*Helleborus atrorubens*)—see Helleborus.

Dark-purple Stonecrop (*Sedum atropurpureum*)—see Sedum.

Dark-red Side-saddle-flower (*Sarracenia atrosanguinea*)—see Sarracenia.

Dark-red Sunflower (*Helianthus atrorubens*)—see Helianthus.

Dark-spotted Poppy (*Papaver umbrosum*)—see Papaver.

Dark-stemmed Bamboo (*Bambusa nigra*)—see Bambusa.

Dark-yellow Day Lily (*Emerocallis lutea*)—see Emerocallis.

Darling River Pea (*Swainsonia Greyana*)—see Swainsonia.

Darlingtonia (Californian Pitcher-plant).—*Ord.* Sarracenaceæ.

Hardy herbaceous orn. foliage plant. *Nat.* California. *Int.* 1861. *Ht.* 1 to 1½ ft. *Species* cultivated, 1. *Flowers*, white or pale green; *Ap.* *Pitchers*, borne on summit of leaves, hood-like, bright green, mottled with white & pink. *Greenhouse culture*: *Compost*, equal parts peat, chopped sphagnum, sharp sand & small pieces of limestone. *Position*, under handlight in shady greenhouse. *Pot.*, Feb. or Mar. *Water* freely at all times. *Syringe* daily Mar. to Sept. *Ventilate* hand-light daily. *Outdoor culture*: *Compost*, spongy fibrous peat & chopped sphagnum moss. *Position*, damp, by side of stream, or in bog exposed to sun, but sheltered from cold winds. *Plant*, Mar. or Ap. *Propagate* by seeds sown on surface of mixture of fibrous peat, charcoal, sphagnum & sand in a pan stood partly in water & covered with a bell-glass in cool greenhouse in Ap. or May; division of side shoots inserted in small pots at any time of year.

Darsham Fern (*Lastrea cristata*)—see Lastrea.

Dart Grass (*Holcus mollis* & *H. lanatus*)—see Holcus.

Darwinia.—*Ord.* Myrtaceæ. Greenhouse evergreen shrubs. *Nat.* Australia. *Int.* 1820. *Ht.* 1 to 3 ft. *Species* cultivated, 10. *Flowers*, white, red, purple; *Ap.* to June. *Compost*, equal parts loam, peat & sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly in Feb. or Mar. *Water* moderately Sept. to Mar., freely Mar. to Sept. *Prune*, Feb. or Mar. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of young shoots 2 or 3 in. long, inserted in sandy peat under bell-glass in temp. 40° to 50° in Ap. or May.

Darwin's Barberry (*Berberis Darwini*)—see *Berberis*.

Dasyliiron.—*Ord.* Liliaceæ. Greenhouse evergreen plants. *Orn. foliage.* *Nat. Mexico.* *Int.* 1835. *Ht.* 3 to 12 ft. *Species* cultivated, 5; varieties, 3. *Flowers*, white; *sum.* *Leaves*, glaucous green, with spiny margins. *Compost*, two parts loam & peat, one sand. *Position*, pots or tubs in airy greenhouse, dwelling-rooms, or outdoors in beds May to Sept. *Pot* firmly Feb. or Mar. *Water* very little Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept., 50° to 60°. *Propagate* by seeds sown in sandy peat in well drained pans or pots under bell-glass in temp. 50° to 60° in Mar., Ap. or May.

Date Palm (*Phoenix dactylifera*)—see *Phœnix*.

Date-Plum (*Diospyros virginica*)—see *Diospyros*.

Datisca (False Hemp).—*Ord.* Datisceæ. Hardy herbaceous perennial. *Orn. foliage.* *Nat. Crete, W. Asia.* *Int.* 1739. *Ht.* 3 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; Sept.; male & female borne on separate plants. *Leaves*, pinnate, green. *Soil*, deep rich, ordinary. *Position*, open & sunny border. *Plant*, Oct., Nov., Mar. or Ap. *Female* plant most effective. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in fine soil outdoors in Mar., Ap. or May, transplanting seedlings to permanent positions any time.

Datura (Thorn Apple, Double Trumpet, Dewtry, Jamestown-weed, Stink-weed).—*Ord.* Solanaceæ. Half-hardy & greenhouse annuals, shrubs & trees. *Nat. Cuba, Organ Mountains, E. Indies, California, Mexico, Peru, England, America.* *Int.* (foreign species) 1596. *Ht.* 1 to 15 ft. *Species* cultivated, 5 greenhouse shrubs, 7 annuals; varieties 7. *Flowers*, white, yellow, violet; Ap. to Aug. *Culture of annual species*: *Soil*, light sandy. *Position*, sunny borders outdoors. *Plant*, May. *Culture of shrubby species*: *Compost*, equal parts loam, fibrous peat, well decomposed manure & silver sand. *Position*, pots, tubs, or borders well drained in sunny greenhouse. *Pot or plant*, Mar. *Prune* freely Sept. or Oct. *Water* very little Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65°. *Place* plants outdoors in sunny position June to Sept. *Apply* liquid manure occasionally whilst plants are in flower. *Propagate* annuals by seed sown $\frac{1}{2}$ in. deep in light sandy soil in well drained pots in temp. 55° to 65° in Mar. or Ap., & transfer the seedlings to small pots until planting time; shrubby species by cuttings of shoots 6 in. long inserted in sandy soil under bell-glass in temp. 65° to 75° in spring or autn.

Daurian Moon-seed (*Menispermum dauricum*)—see *Menispermum*.

Daurian Rhododendron (*Rhododendron dauricum*)—see *Rhododendron*.

Davallia (Hare's-foot Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat. Africa, Australia, India, Java, Ceylon, Borneo, Malay Archipelago, E. Indies, Polynesia, New Zealand, N.S. Wales, Spain.* *Int.* 1699. *Ht.* 1 in. to 2 ft. *Species* cultivated, 42; varieties several. *Culture of stove species*: *Compost*, two parts loam, one part leaf-mould, peat, pounded charcoal & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in light part of plant stove. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Culture of greenhouse species*: *Compost*, same as for stove species. *Pot*, Mar. or Ap. *Position*, pots or baskets in partial shade. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50 to 60°. *Propagate* by spores sown on surface of sandy peat in pans under bell-glass in temp. 55° to 75° at any time; division of rhizomes in Feb. or Mar.

David's Clematis (*Clematis Davidiana*)—see *Clematis*.

David's Harp (*Polygonatum multiflorum*)—see *Polygonatum*.

David's root (*Celastrus scandens*)—see *Celastrus*.

Daviesia (Native Pop of Australia).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat. Tasmania, New Holland.* *Int.* 1805. *Ht.*

2 to 5 ft. *Species* cultivated, 2. *Flowers*, orange, yellow; Ap., May. *Compost*, equal parts loam, peat & silver sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly Mar. or Ap. *Water* very little Oct. to Mar., moderately other times. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of firm young shoots inserted in sand under bell-glass in temp. 50° to 55° in spring; seeds sown $\frac{1}{4}$ in. deep in sandy peat in temp. 55° in Mar.

Day-berry (*Ribes grossularia*)—see *Ribes*.

Day-flower (*Commelina cælestis*)—see *Commelina*.

Day-lily (*Hemerocallis fulva*)—see *Hemerocallis*.

Dead Men's Bells (*Digitalis purpurea*)—see *Digitalis*.

Dead Men's Fingers (*Orchis mascula*)—see *Orchis*.

Dead-wort (*Sambucus ebulus*)—see *Sambucus*.

Deal Trees (*Abies excelsa* & *Pinus austriaca*)—see *Abies* & *Pinus*.

De Bergh's Iris (*Iris De Berghi*)—see *Iris*.

Decaisne's Locust-tree (*Robinia pseudo-acacia Decaisneana*)—see *Robinia*.

De Candolle's Primrose (*Primula Candolleana*)—see *Primula*.

Deccan Grass (*Panicum frumentaceum*)—see *Panicum*.

Deciduous Cypress (*Taxodium distichum*)—see *Taxodium*.

Declining-branched Elm (*Ulmus major*)—see *Ulmus*.

Decumaria.—*Ord.* Saxifragaceæ. Hardy orn. deciduous twiner. *Nat.* U.S. America. *Int.* 1785. *Ht.* 4 to 30 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; June. *Soil*, light, rich. *Position*, against south or west walls, arbours or trellis work. *Plant*, Oct., Nov. or Dec. *Prune* away weak & dead shoots in Feb. *Propagate* by cuttings of shoots inserted in ordinary soil under hand-light in shady position outdoors in sum.

Deep-green-flowered Stonecrop (*Sedum virens*)—see *Sedum*.

Deep-rose Camellia (*Camellia rubens*)—see *Camellia*.

Deep-rose-coloured American Cowslip (*Dodecatheon meadia* var. *splendens*)—see *Dodecatheon*.

Deep-yellow-flowered Gromwell (*Lithospermum officinale*)—see *Lithospermum*.

Deer Berry (*Mitchella repens* & *Vaccinium stamineum*)—see *Mitchella* & *Vaccinium*.

Deer Fern (*Lomaria spicant*)—see *Lomaria*.

Deer Grass (*Rhexia virginica*)—see *Rhexia*.

Deer's-foot Grass (*Agrostis setacea*)—see *Agrostis*.

Deer's Hair (*Scirpus cæspitosus*)—see *Scirpus*.

Deil's Spoons (*Potamogeton natans* & *Alisma plantago*)—see *Potamogeton* & *Alisma*.

Delicate-tinted Iris (*Iris amæna*)—see *Iris*.

Delphinium (Dolphin-flower, Larkspur).—*Ord.* Ranunculacæ. Hardy annuals & herbaceous perennials. *Nat.* Britain, N. America., California. Kashmir, Pyrenees, Caucasus, Dahuria, Siberia, Tauria, E. Europe, S. Europe, *Int.* (foreign species) 1596. *Ht.* 6 in. to 6 ft. *Species* cultivated, 4 annuals, 11 perennials; varieties numerous. *Culture of annual species*: *Soil*, ordinary, rich. *Position*, open beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep where plants are to flower in Ap., or in light soil in shallow boxes in temp. 55° in Ap., trans. planting seedlings in May. *Culture of perennials*: *Soil*, deep, rich. *Position*, sunny beds or borders. *Plant* 3 ft. apart in Oct., Nov., Mar. or Ap. *Cut* down flower stems in Aug. or Sept. *Lift & replant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., or in pans or boxes of light soil in temp. 55° in Ap.; cuttings of young shoots, 3 in. long, inserted in 2 in. pots of sandy soil in cold frame in Sept. or Mar.; division of roots in Oct. or Mar.

Dendrobium (Mouse-tail Orchid, Rock Lily).—*Ord.* Orchidaceæ. Stove & greenhouse epiphytal evergreen & deciduous orchids. *Nat.* Java, Sumatra, Borneo, Nepaul, Moulmein, Brazil, Paraguay, Cochin China, E. Indies, Arracan Hills, Torres Straits, Burmah, Philippine Islands, Assam, Khasya, Sikkim, Gualpara, Australia, China, Japan, Ceylon, Manila, Queensland, Chittagong, New Guinea. *Int.* 1801. *Ht.* 3 in. to 4 ft. *Species* cultivated, about 100; varieties & hybrids many. *Flowers*, shades of rose, purple, yellow, white, crimson, amber, pink, magenta, orange, lilac, scarlet; all times of the year. *Culture of stove species*: *Compost*, equal parts peat, living sphagnum moss & charcoal. *Position*, erect species in well drained pots; drooping species in baskets & on blocks or rafts of wood. *Place* in pots, etc., Feb. or Mar. *Water* freely Ap. to Sept., very little afterwards. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Feb. 60° to 65°; Feb. to Mar. 65° to 70°. *Culture of greenhouse species*: *Compost*, same as above. *Position*, pots, blocks, or baskets. *Repot*, etc., in Feb. or Mar. *Water* moderately Sept. to Feb., freely afterwards. *Temp.*, Oct. to Mar. 45° to 55°; Mar. to Oct. 55° to 65°. *Growing period*, Mar. to Aug. *Resting period*, Oct. to Feb. *Propagate* by offsets or cuttings of pseudo-bulbs inserted in well drained pots of peat & sphagnum moss under bell-glass, in temp. 85° to 95° at any time.

Dendrochilum.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Manila, Philippine Islands. *Int.* 1836. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, yellow, white, fragrant; Mar. to July. *Compost*, equal parts fibrous peat & sphagnum. *Position*, well drained pots in plant stove. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Oct. to Mar. 60° to 65°; Mar. to Oct. 70° to 85°. *Propagate* by dividing pseudo-bulbs & plants when beginning to grow.

Denhardt's Rest-barrow (*Ononis Denhardtii*)—see *Ononis*.

Dense-clustered flowered Jacob's Ladder (*Polemonium confertum*)—see *Polemonium*.

Dense-foliaged St. John's-wort (*Hypericum frondosum*)—see *Hypericum*.

Densely-flowered Arbutus-tree (*Arbutus densiflora*)—see *Arbutus*.

Dentaria (Pepper-root, Tooth-wort, Coral-root, Tooth Cress, Tooth Violet).—*Ord.* Cruciferæ. Hardy herbaceous perennials. *Nat.* Britain, Europe, N. America. *Int.* (foreign species) 1659. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8. *Flowers*, white, rose, cream, purple; Ap. to June. *Soil*, light, rich. *Position*, moist & shady. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light soil in shallow boxes in cold frame in Mar. or Ap., transplanting seedlings outdoors in June or July; division of roots in Oct., Nov. or Mar.

Denticulate Medick (*Medicago denticulata*)—see *Medicago*.

Deodar (*Cedrus Deodara*)—see *Cedrus*.

Deparia.—*Ord.* Filices. Stove ferns. *Nat.* Peru, New Caledonia, N.S. Wales, Sandwich Islands. *Int.*, date unknown. *Ht.* 12 to 18 in. *Species* cultivated, 4. *Compost*, two part peat, one loam, silver sand, & charcoal. *Pot*, Mar. *Position*, shady part of plant stove. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by spores sown on fine sandy peat, kept moist & shady, under bell-glass in temp. 75° to 85° in spring.

Deppe's Wood-sorrel (*Oxalis Deppei*)—see *Oxalis*.

Deptford Pink (*Dianthus armeria*)—See *Dianthus*.

Desert Rod (*Eremostachys laciniata*)—see *Eremostachys*.

Desfontania.—*Ord.* Loganiaceæ. Hardy evergreen shrub; orn. foliage & flowering. *Nat.* Chili, New Grenada. *Int.* 1853. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, scarlet, yellow; Aug. *Leaves*, oval, dark shiny green, with spiny margins. *Compost*, equal parts peat & loam. *Position*, sheltered borders outdoors, or against south wall. *Plant*, Oct., Nov. or Ap.

Greenhouse culture: *Compost*, equal parts peat, loam, charcoal & sand. *Position*, well drained pots, tubs, or borders. *Pot or Plant*, Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Propagate* by cuttings inserted in sandy peat & loam in well drained pots under bell-glass or hand-light in temp. 55° to 65° in spring.

Desmodium (West Indian Honeysuckle, Tick Trefoil, Moving-plant, Telegraph-plant).—*Ord.* Leguminosæ. Hardy perennial herbs, & stove & greenhouse shrubs. *Nat.* E. Indies, N. America, Nepal. *Int.* 1640. *Ht.* 1 to 6 ft. *Species* cultivated, 1 hardy, 1 stove. *Flowers*, reddish-purple, violet; July. *Leaves* of stove species (*D. gyrans*) pinnate; leaflets move rapidly up and down, especially during sunshine. *Culture of stove species:* *Compost*, equal parts peat, loam & silver sand. *Position*, pots in plant stove. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Culture of hardy species:* *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Nov. *Cut* down stems in autn. *Propagate* stove species by seeds sown in light sandy soil in temp. 75° to 80° in Feb. or Mar., or by cuttings inserted in sandy peat under bell-glass in temp. 75° to 80° in Mar. or Ap.; hardy species by division of plants in autn.

Deutzia (Japanese Snow-flower).—*Ord.* Saxifragaceæ. Hardy deciduous flowering shrubs. *Nat.* Japan, Himalayas. *Int.*, date unknown. *Ht.* 1 to 8 ft. *Species* cultivated, 4. *Flowers*, white, fragrant; Ap. to June. *Outdoor culture:* *Soil*, ordinary. *Position*, sunny, well drained border. *Plant*, Oct. to Feb. *Prune*, June. *Pot culture:* *Compost*, two parts loam, one part decayed manure & sand. *Pot*, Oct. or Nov. *Position*, cold frame Nov. to Feb.; greenhouse Feb. to May; outdoors afterwards. *Water* very little Oct. to Feb., moderately Feb. to Ap., freely Ap. to Oct. *Temp.*, Feb. to May 55° to 65°. *Plants* will flower in cold greenhouse without heat if desired. *Plant* cut deutzias that have flowered in heat in open garden for a year, then lift & repot, to flower again. *Propagate* by cuttings of young shoots, 3 in. long, inserted in sandy soil under bell-glass in cold frame in June or July, also of firm shoots, 10 to 12 in. long, inserted in ordinary soil outdoors in Nov., Dec., or Jan.

Daucus (Carrot).—*Ord.* Umbelliferæ. Hardy esculent-rooted biennial. *Nat.* Britain. *Ht.* 12 to 15 in. *Species* cultivated, 1; varieties many. *Flowers*, white, borne second year; June, July. *Soil*, deep, rich, sandy for long kinds; shallow, light for short varieties. *Position*, open garden for main crop; south border for early crop. *Manure* for previous crop, not for carrots. *Sow* seeds $\frac{1}{2}$ in. deep in rows 9 in. apart for long sorts; 6 in. apart for shorthorns. *Time to sow*, Feb., Mar., Ap. or Aug. *Thin* seedlings to 6 & 9 in. apart in June. *Lift & store* roots in Oct. & Nov. *Forcing:* *Soil*, light rich. *Position*, frame over hotbed, with temp. 75° to 80°. *Sow* seeds thinly $\frac{1}{2}$ in. deep in Feb. or Mar. *Water* moderately. *Ventilate* frame when temp. reaches 75°. *Thin* seedlings to 3 in. apart when 1 in. high.

Devil-in-a-Bush (*Nigella damascena*)—see *Nigella*.

Devil Wood (*Osmanthus americanus*)—see *Osmanthus*.

Devil's Apple (*Mandragora officinalis*)—see *Mandragora*.

Devil's Bean (*Capparis cynophallophora*)—see *Capparis*.

Devil's Bit (*Scabiosa succisa*)—see *Scabiosa*.

Devil's Candlestick (*Nepeta glechoma*)—see *Nepeta*.

Devil's Fig (*Argemone mexicana*)—see *Argemone*.

Devil's Flower (*Lychnis diurna*)—see *Lychnis*.

Devil's Garter (*Convolvulus sepium*)—see *Convolvulus*.

Devil's Herb (*Plumbago scandens*)—see *Plumbago*.

Devil's Milk (*Euphorbia helioscopia*)—see *Euphorbia*.

Devil's Trumpet (*Datura stramonium*)—see *Datura*.

Devonshire Myrtle (*Myrica Gale*)—see *Myrica*.

Devonshire Oak (*Quercus cerris* var. *Lucombeana*)—see *Quercus*.

Dew Berry (*Ribes cœsius*)—see *Ribes*.

Dew Grass (*Dactylis glomerata*)—see *Dactylis*.

Dew Plant (*Mesembryanthemum glabrum*)—see *Mesembryanthemum*.

Dewtoe (*Datura stramonium*)—see *Datura*.

Diadem Pink (*Dianthus diadematus*)—see *Dianthus*.

Diamond-leaved Bellflower (*Campanula rhomboidea*)—see *Campanula*.

Dianella (Flax Lily, Paroo Lily).—*Ord.* Liliaceæ. Half-hardy fibrous-rooted perennials. Orn. foliage & fruiting plants. *Nat.* New Zealand, E. Indies, N. S. Wales. *Int.* 1731. *Ht.* 18 in. to 2 ft. *Species* cultivated, 3. *Flowers*, blue, white; May, June. *Fruit*, blue; sum. *Outdoor culture*: *Compost*, equal parts loam & peat. *Position*, sheltered borders; S. of England only. *Plant*, Oct., Mar. or Ap. *Greenhouse culture*: *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in unheated greenhouse. *Pot*, Feb., Mar. or Ap. *Water* moderately Sept. to Mar., freely afterwards. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light soil in temp. 55° to 65° in spring; division of fibrous roots Oct. or Mar.

Dianthera (Water Willow).—*Ord.* Acanthaceæ. Stove shrubby plants & hardy perennial herbs. *Nat.* Canada, Texas, Carolina, Brazil, W. Indies, Venezuela. *Int.* 1793. *Ht.* 1 to 3 ft. *Species* cultivated, 3 stove, 1 hardy. *Flowers*, violet, purple, red; Oct. to July. *Culture of stove species*: *Compost*, equal parts loam, leaf-mould & sand. *Position*, well drained pots in plant stove Sept. to June, afterwards in sunny cold frame. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Prune* shoots in closely in Feb. or Mar. *Propagate* by cuttings of side shoots inserted in sandy compost in small pots under bell-glass in temp. 75° to 80° in Mar. or Ap.

Dianthus (Alpine Pink, Chinese Pink, Deptford Pink, Sand Pink, Italian Pink, Sweet John, Sweet William, Cheddar Pink, Clove Pink, Cliff Pink, Mountain Pink, German Pink, Maiden Pink, Diadem Pink, Fischer's Pink, Sweet-scented Pink, Glacier Pink, Japanese Pink, Grass Rose Pink, Rose Pink, Sweet Pink, Fringed Pink, Garden Pink, Feathered Pink, Pheasant's-eye Pink, Indian-eye Pink, Carnation, Carnadine, Clove Gillyflower, Coronation Picotee).—*Ord.* Caryophyllaceæ. Hardy perennials & biennials. *Nat.* (Carnation) S. Europe; (Sweet William) S. & E. Europe; (Pink) E. Europe; (Chinese or Indian Pink) China; others Asia, Britain, Europe, Greece, Russia, Turkestan, Spain, Portugal. *Int.* (Carnation) date unknown, probably by the Romans; (Pink) 1629; (Chinese Pink) 1713; (Sweet William) 1573. *Ht.* 3 in. to 3 ft. *Species* cultivated, 32 perennials, 2 biennials; varieties numerous. *Flowers*, various; May to Sept.; tree varieties, winter. *Classification*: Carnations—*Bizarres*, ground colour one shade, marked or striped with pink, scarlet, purple; *Cloves*, one colour, clove-scented; *Flakes*, ground colour one shade, flaked with crimson, rose, or purple; *Sells*, one colour only; *Tree*, self, striped or flaked, tall habit; *Picotee*, ground colour of one shade, edged with another colour. *Pinks*—*Show* or *Laced*, petals finely fringed, broad ends white with velvet eye, or velvet eye with laced velvet edges & white centre; *Border*, self-coloured or laced, fragrant, free-flowering, robust; *Alpine*, blooms single, of various colours. *Sweet Williams*—*Show*, smooth edged petals, dark centres; *Auricula-eyed*, smooth edged petals, white eye, surrounded with crimson or other shades; *Ordinary*, fringed petals, various colours. *Culture of Carnations & Picotees*: *Border*—*Soil*, moderately rich, ordinary. *Position*, open sunny borders. *Plant* 12 in. apart, Oct. or Mar. *Top-dress* with decayed manure in Ap. or May. *Thin* flower buds to three on each shoot in June. *Apply* liquid manure once a week when flower buds appear. *Stake* flower stems in May. *Exhibition*—*Compost*, three parts decayed turfy loam, one part decomposed cow manure & river sand. *Position*,

open sunny beds. *Plant*, Oct. or Mar. *Top-dress* with decayed cow manure in Ap. *Stake* flower stems in May. *Apply* liquid manure once a week during June & July. *Thin* flower buds in June to one or three on each shoot. *Tie* matting round calyces in July to prevent pod bursting. *Remove* blooms directly they wither. *Pot* culture—*Compost*, three parts well decayed turfy loam, one part thoroughly decomposed cow manure & river sand. *Position*, cold frame Oct. to Feb., cold greenhouse afterwards. *Pot* singly in 3-in. pots in Oct.; two in an 8-in. pot in Feb. *Water* moderately Oct. to Mar., freely afterwards. *Apply* liquid manure once a week Ap. to July. *Thin* buds to three on each shoot in May. *Tie* calyces as advised above. *Ventilate* greenhouse freely. *Culture of Tree Carnations*: *Compost*, equal parts sandy loam & leaf-mould, half a part decayed manure & sand. *Position*, greenhouse Sept. to Mar., outdoors remainder of time. *Pot* rooted cuttings in 3-in. pots in Mar., shift into 6-in. pot in May, 6-in. size in June. *Water* moderately Sept. to Ap., freely afterwards. *Apply* liquid manure occasionally. *Thin* flower buds to three on each shoot. *Temp.*, Sept. to May, 50° to 60°. *Plants* raised annually from cuttings best. *Culture of Pinks*: *Border*—*Soil*, ordinary, well enriched with decayed manure. *Position*, open sunny beds or borders. *Plant* 9 in. apart each way in Aug. or Sept. *Top-dress* with decayed manure in Ap. *Thin* shoots to four on each plant in June if fine blooms are desired. *Apply* liquid manure occasionally Ap. to July. *Pot* culture—*Compost*, same as for tree carnations. *Position*, cold frame Oct. to Mar.; greenhouse Mar. to June; outdoors June to Oct. *Pot* rooted cuttings in 3-in. pots in Mar.; plant outdoors in May; lift & repot in 6-in. pots in Oct. *Water* moderately in winter, freely other times. *Culture of Sweet Williams*: *Soil*, ordinary, rich. *Position*, open sunny beds. *Plant* 10 in. apart each way in June, July or Sept. *Apply* guano at rate of 1 oz. to sq. yard in Ap. or May. *Propagate* carnations, picotees, & pinks by seeds sown $\frac{1}{8}$ in. deep in pans of sandy soil in cold frame in Ap., May or June; cuttings or pipings inserted in sandy soil under hand-lights in June or July; layering in July or Aug. *Sweet williams* by seed sown $\frac{1}{2}$ in. deep in light soil in sunny position outdoors in Ap. or May; cuttings inserted in sandy soil under hand-light in Sept.; layering in July. *Tree carnations* by seed sown as above; cuttings inserted in sandy soil in temp. 65° to 75° in Feb., Mar. or Ap.

Diapensia.—*Ord.* Diapensiaceæ. Hardy dwarf evergreen alpine shrub. *Nat.* Arctic America, Norway, Lapland. *Ht.* 1 to 2 in. *Int.* 1801. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, deep sandy peat mixed with stones. *Position*, exposed on sunny rockery. *Water* freely June, July & Aug. *Plant*, Mar. or Ap. *Propagate* by division of plants in Mar. or Ap.

Dicentra (Showy Bleeding Heart, Common Bleeding Heart, Plumy Bleeding Heart, Dutchman's Breeches, Breccies-flower, Lock & Keys, Seal-flower, Squirrel Corn).—*Ord.* Fumariaceæ. Hardy herbaceous tuberous & fibrous-rooted perennials. *Nat.* California, U.S. America, Siberia, Japan, Canada, Himalayas. *Int.* 1731. *Ht.* 6 in. to 5 ft. *Species* cultivated, 7. *Flowers*, yellow, purple, red, rose, white; Ap. to Sept. *Soil*, deep light rich sandy. *Position*, warm sheltered borders, rockeries, or in woods. *Plant*, Oct., Nov., Mar. or Ap. *Protect* during winter by covering with layers of ashes or manure. *Top-dress* with decayed manure in Mar. *Pot* culture of *D. spectabilis* in cold greenhouse: *Compost*, equal parts loam, leaf-mould & sand. *Pot*, Oct. or Nov. *Position*, cold frame Oct. to Feb.; greenhouse Feb. to May; afterwards planting out in borders. *Water* moderately when new growth begins, freely when in full growth. *Apply* liquid manure once or twice weekly when flower buds appear. *Forcing*: *Pot*, Oct. *Place* in cold frame till Jan. *Transfer* to temp. 55° to 65° in Jan. *After forcing*, plant out in open border. *Plants* should only be forced in pots one year. *Propagate* by dividing the crowns in Feb., Mar. or Ap.; cuttings of fleshy roots 2 in. long inserted in sandy soil in temp 55° in Mar. or Ap.

Dichæa.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* W.

Indies, Trop. America. *Int.* 1870. *Species* cultivated, 1. *Flowers*, green, purple; *sum.* *Compost*, fresh sphagnum moss. *Position*, blocks of wood suspended from roof of stove. *Water* daily. *Temp.*, Mar. to Aug. 65° to 85°; Aug. to Mar. 50° to 60°. *Propagate* by division of plants in Feb. or Mar.

Dicksonia (Tasmanian Tree Fern, St. Helena Tree Fern, Cushion Tree Fern, Jamaica Tree Fern, New Zealand Tree Fern, Hay-scented Tree Fern).—*Ord.* Filices. Stove & greenhouse tree ferns. *Nat.* Australia, Trop. America, New Zealand, St. Helena, Polynesia. *Int.* 1786. *Species* cultivated, 5. *Ht.* 6 to 30 ft. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs well drained in shady stove, greenhouse, or conservatory. *Pot.*, Feb., Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse; Mar. to Sept. 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in *sum.* essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in well drained pots covered with a sheet of glass, & kept moist.

Dictamnus (Burning Bush, Dittany, Fraxinella, Gas plant).—*Ord.* Rutaceæ. Hardy herbaceous perennial. *Nat.* Asia, S.E. Europe. *Int.* 1596. *Ht.* 12 to 18 in. *Species* cultivated, 1; variety 1. *Flowers*, purple, red; *May*, *June*. *Foliage*, fragrant. *Soil*, ordinary, dryish. *Position*, partially shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors in Aug. or Sept.; cuttings of fleshy roots inserted 2 in. deep outdoors in Mar. or Ap.; division of roots in Oct., Nov. or Mar.

Dictymia—see *Polypodium*.

Dictyogramma—see *Gymnogramma*.

Dictyopteris—see *Polypodium*.

Didyosperma.—*Ord.* Palmaceæ. Stove Palms. Orn. foliage. *Nat.* Mauritius, Seychelles Islands. *Int.* 1842. *Ht.* 6 to 30 ft. *Species* cultivated, 4. *Leaves*, pinnate. *Compost*, equal parts loam, leaf-mould & sand. *Position*, pots in shady moist plant stove. *Pot.*, Feb. or Mar. *Water* freely at all times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of sandy peat in temp. 85° in Feb., Mar. or Ap.

Didymocarpus.—*Ord.* Gesneraceæ. Stove perennial herbs. *Nat.* Trop. Asia. *Int.* 1845. *Ht.* 3 to 12 in. *Species* cultivated, 3. *Flowers*, white, purple, lilac; *July* to *Nov.* *Compost*, equal parts peat & loam, one-fourth part cow dung & sand. *Position*, well drained pots in moist plant stove. *Pot.*, Feb., Mar. or Ap. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 50° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by cuttings of young side shoots inserted in sandy soil under bell-glass in temp. 80° to 85° in Mar. or Ap.

Didymochlæna.—*Ord.* Filices. Greenhouse fern. *Nat.* Trop. America, Malay Archipelago. *Int.* date unknown. *Species* cultivated, 1. *Ht.* 2 to 3 in. *Compost*, two parts loam, one peat, pounded charcoal & sand. *Pot.*, Feb. or Mar. *Position*, well drained pots in shady part of greenhouse. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 60° to 60°. *Propagate* by spores sown on surface of sandy peat under bell-glass in temp. 55° to 65° at any time.

Dieffenbachia (Dumb Cane).—*Ord.* Aroidaceæ. Stove evergreen perennials. Orn. foliage. *Nat.* Trop. America, Brazil, Venezuela, Ecuador. *Int.* 1863. *Ht.* 2 to 5 ft. *Species* cultivated, 30; varieties, several. *Leaves*, broad, deep green, variegated with white or yellow. *Compost*, equal parts peat & loam, one-fourth part decayed manure & silver sand. *Position*, well drained pots in moist plant stove. *Pot.*, Feb. or Mar. *Water* moderately Sept. to Feb., freely afterwards. *Syringe* daily, *June*, *July* & *Aug.* *Shade* in *sum.* essential. *Temp.*, Sept. to Feb. 55° to 65°; Feb. to Sept. 65° to 85°. *Propagate* by cuttings of stems one to two inches long inserted in sandy soil under bell-glass in temp. 75° to 85° in spring.

Dielytra—see *Dicentra*.

Diervilla (Bush Honeysuckle).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs. *Nat.* Japan, Siberia, China, N. America. *Int.* 1789. *Ht.* 3 to 8 ft. *Species* cultivated, 6; varieties, 13. *Flowers*, purple, pink, white, red, rose; May to July. *Leaves*, ovate, green or golden. *Soil*, ordinary. *Position*, moist shady shrubberies, or against south, east, or west walls or fences. *Plant*, Oct. to Feb. *Prune* after flowering. *Propagate* by cuttings of young shoots inserted in pots of sandy soil under bell-glass in cool greenhouse in spring; cuttings of firm shoots 6 in. long inserted 3 in. deep & 2 in. apart in north border under hand-light in Oct. or Nov.

Digger Pine-tree (*Pinus Sabiana*)—see *Pinus*.

Digger's Speedwell of Australia (*Veronica perfoliata*)—see *Veronica*.

Digitalis (Foxglove, Bloody Finger, Dead Men's Bells, Fairy Finger, Finger-plant, Flag Dock).—*Ord.* Scrophularinacæ. Hardy biennial & perennial herbs. *Nat.* Britain, N. Africa, W. Asia. *Int.* (foreign species) 1596. *Ht.* 1 to 5 ft. *Species* cultivated, 7 perennials, 2 biennials. *Flowers*, purple, rose, white, yellow, brown; May, Aug. *Soil*, rich ordinary. *Position*, open shady border. *Plant*, Oct., Nov., Mar. or Ap. *Culture of biennials*: Sow seeds $\frac{1}{2}$ in. deep in shady border outdoors in Ap. *Transplant* seedlings 3 in. apart in shady bed in June. *Transfer* seedlings to flowering position in Oct. or Nov. *Propagate* perennials by seeds sown as directed for biennials; division of plants in Mar.

Dill (*Anethum graveolens*).—*Ord.* Umbelliferæ. Hardy perennial culinary herb. Deciduous. *Nat.* Spain. *Int.* 1570. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Leaves* used for flavouring spices & sauces. *Soil*, ordinary. *Position*, open borders. *Plant*, Mar. *Propagate* by seeds sown 1 in. deep in drills 9 in. apart. *Thin* seedlings when 3 in. high to 8 in. apart.

Dill-leaved Wormwood (*Artemisia anethifolia*)—see *Artemisia*.

Dillen's Tick-Trefoil (*Desmodium Dilleni*)—see *Desmodium*.

Dillwynia.—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1794. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Flowers*, yellow, purple, red, orange; Mar., Ap. & May. *Compost*, equal parts fibry peat & loam, one-fourth part sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. or June; firm potting essential. *Prune* straggling shoots little after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 45° to 50°. *Place* plants outdoors July to Sept. to mature growth. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy compost in temp. 65° to 70° in Mar.; cuttings inserted in pots of sandy peat under bell-glass in temp. 65° in sum.

Dilo Oil-tree (*Calophyllum inophyllum*)—see *Calophyllum*.

Diminutive Bellflower (*Campanula pusilla*)—see *Campanula*.

Diminutive White Bellflower (*Campanula pusilla alba*)—see *Campanula*.

Dimorphantus.—*Ord.* Araliacæ. Hardy deciduous shrub. Orn. foliage. *Nat.* Manchuria. *Int.* 1836. *Ht.* 5 to 12 ft. *Species* cultivated, 1. *Leaves* 3 to 5 ft. long & 2 to 4 ft. wide, finely divided, hairy & prickly. *Soil*, ordinary, rich. *Position*, sheltered sunny well drained borders, shrubberies, & on lawns. *Plant*, Oct. to Feb. *Propagate* by cuttings of root 2 in. long inserted in well drained pots of sandy soil in temp. 65° to 75° in Mar. or Ap.

Dimsdale's Silver Spruce (*Abies alba* var. *glauca*)—see *Abies*.

Dioneæ (Venus' Fly-trap).—*Ord.* Droseracæ. Greenhouse herbaceous perennials. *Nat.* Carolina, Florida. *Int.* 1768. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; July & Aug. *Leaves* two-lobed, margined with teeth & sensitive. *Compost*, equal parts peat & living sphagnum. *Position*, pots or pans well drained & partly immersed in pans of water, & placed under

glass in cool greenhouse. *Pot*, Mar. or Ap. *Water* freely always. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to Sept. 45° to 55°. *Propagate* by seeds sown in mixture of sphagnum moss & peat, kept moist under bell-glass in Mar. or Ap.; division of plants in Mar.

Dioscorea (Chinese Yam).—*Ord.* Dioscoreaceæ. Hardy tuberous-rooted perennial. *Nat.* China. *Int.* 1854. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, white, insignificant. *Tubers* large, milky, edible, cooked like potatoes. *Soil*, ordinary. *Position*, sunny, open. *Plant* small tubers 3 in. deep & 12 in. apart in Mar. *Lift* & store tubers in frost-proof place in Oct. *Propagate* by cuttings of stems 1 in. long with leaf attached, inserted $\frac{1}{2}$ in. deep in sandy soil under bell-glass in temp. 55° in sum.

Diosma (African Steel-bush).—*Ord.* Rutaceæ. Greenhouse evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1756. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, white, red, blue; Feb. to May. *Leaves* fragrant. *Compost*, two parts fibrous peat, one part loam, & silver sand. *Pot*, May, June. *Pinch* off points of vigorous shoots in July & Aug. *Water* very little Oct. to Mar., moderately afterwards. *Temp.*, Sept. to Mar. 40° to 45°; Mar. to Sept. 50° to 55°. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 55° to 65° in Mar., Ap. or May.

Diospyros (Date Plum, Persimmon).—*Ord.* Ebenaceæ. Hardy deciduous trees. *Nat.* S. Europe, N. America. *Int.* 1596. *Ht.* 20 to 30 ft. *Species* cultivated, 3. *Flowers*, red, white, yellow; June & July. *Fruit*, yellow, plum-shaped, sweet flavour. *Soil*, ordinary. *Position*, shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep outdoors in Sept. or Oct.

Dipkyleia (Umbrella-leaf).—*Ord.* Berberidaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1812. *Ht.* 1 ft. *Flowers*, white; June, Aug. *Berries*, blue; autn. *Soil*, peaty. *Position*, moist shady borders. *Plant*, Oct. to Mar. *Propagate* by division of plants in Mar. or Ap.

Diplacus (Glutinous Monkey-flower).—*Ord.* Scrophulariaceæ. Greenhouse evergreen flowering shrub. *Nat.* California. *Int.* 1837. *Species* cultivated, 1; variety, 1. *Flowers*, buff, orange, red, scarlet; all the year. *Compost*, two parts loam, one leaf-mould, decayed cow manure & sand. *Position*, well drained pots in light airy greenhouse; shoots trained on sticks or trellis. *Pot*, Mar. *Prune*, Feb. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Oct. to Mar. 40° to 50°; Mar. to Oct. 50° to 60°. *Propagate* by cuttings of shoots 2 in. long inserted in sandy soil under bell-glass in temp. 55° to 65° in Mar., or in cool greenhouse or window, in sum.

Dipladenia.—*Ord.* Apocynaceæ. Stove flowering climbers. Evergreen. *Nat.* Bolivia, Rio Janeiro, Organ Mountains. *Int.*, date unknown. *Ht.* 6 to 10 ft. *Species* cultivated, about 3; varieties several. *Flowers*, white, pink, rose, crimson, purple, orange; May to Sept. *Compost*, rough fibry peat & one-fourth silver sand. *Position*, well drained pots, with shoots trained to roof of stove or to wire trellis. *Pot*, Feb. or Mar. *Prune*, Oct., cutting away shoots that have flowered only. *Water* very little Oct. to Feb., moderately Feb. to Ap., freely afterwards. *Temp.*, Oct. to Feb. 55° to 60°; Feb. to Oct. 65° to 75°. *Propagate* by cuttings of young side shoots 3 in. long inserted in pots of sandy peat under bell-glass in temp. 80° in Feb., Mar. or Ap.

Dipsacus (Teasel, Shepherd's Rod, Shepherd's Staff).—*Ord.* Dipsaceæ. Hardy biennial herbs. *Nat.* Britain, Europe, Siberia. *Ht.* 3 to 6 ft. *Int.* (foreign species) 1683. *Species* cultivated, 3. *Flowers*, white, purple, lilac; July. *Soil*, ordinary. *Position*, wild garden, shrubby borders. *Plant*, spring or autn. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors in Mar. or Ap.

Disa (Flower of the Gods, Table Mountain Orchid).—*Ord.* Orchidaceæ. Greenhouse terrestrial orchids. *Nat.* Africa, Mascarene Islands. *Int.* 1825,

Ht. 1 to 3 ft. *Species* cultivated, 2. *Flowers*, rose, scarlet, golden, purple, white; June to Aug. *Compost*, equal parts peat & living sphagnum moss. *Position*, pots or pans, well drained, in shady cold greenhouse Sept. to June; shady corner outdoors June to Sept. *Pot*, Feb., keeping roots well above rim. *Water* moderately Sept. to Mar., freely afterwards. *Atmosphere* airy but not draughty. *Propagate* by seeds sown on living sphagnum moss under bell-glass in cold greenhouse in spring.

Dishley Willow (*Salix Russelliana*)—see *Salix*.

Dithering Grass (*Briza media*)—see *Briza*.

Dittany (*Dictamnus fraxinella*)—see *Dictamnus*.

Dittany of Crete (*Origanum dictamnus*)—see *Origanum*.

Diverse-leaved Rose (*Rosa diversifolia*)—see *Rosa*.

Diverse-leaved Kidney Bean (*Phaseolus diversifolius*)—see *Phaseolus*.

Dodder Grass (*Briza media*)—see *Briza*.

Dodecatheon (Silver Stars, American Cowslip).—*Ord.* Primulacæ.

Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1744. *Ht.* 4 in. to 2 ft. *Species* cultivated, 2; varieties, 4. *Flowers*, red, crimson, purple, white, lilac yellow; Ap. to June. *Soil*, light rich loamy. *Position*, sheltered beds on rockeries, or in borders under shade of trees. *Plant*, Jan. or Feb. *Top-dress* in Feb. with well decayed manure. *Pot culture*: *Compost*, equal parts loam, leaf-mould & sand. *Position*, 6-in. pots, well drained, in cold frame Nov. to Mar., then in unheated greenhouse till after flowering, when stand outdoors. *Pot*, Nov. *Water* moderately when new growth appears, freely when in full growth. *Propagate* by seeds sown in pots of light sandy soil in cold frame in Sept. or Mar.; division of crowns in Oct. or Mar.

Dog-berry (*Cornus sanguinea*)—see *Cornus*.

Dog Daisy (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Dog Eller (*Viburnum opulus*)—see *Viburnum*.

Dog Gowan (*Matricaria inodora*)—see *Matricaria*.

Dog Oak (*Acer campestre*)—see *Acer*.

Dog Rose (*Rosa canina*)—see *Rosa*.

Dog Rowan-tree (*Viburnum opulus*)—see *Viburnum*.

Dog Thistle (*Carduus arvensis*)—see *Carduus*.

Dog Tree (*Cornus sanguinea*)—see *Cornus*.

Dog Violet (*Viola canina* & *V. sylvatica*)—see *Viola*.

Dog-wood (*Cornus sanguinea*)—see *Cornus*.

Dog's Chamomile (*Matricaria chamomilla*)—see *Matricaria*.

Dog's Leek (*Scilla nutans*)—see *Scilla*.

Dog's Orache (*Chenopodium bullaria*)—see *Chenopodium*.

Dog's-tooth Violet (*Erythronium Dens-canis*)—see *Erythronium*.

Dog's-tooth-violet Tulip (*Tulipa erythronioides*)—see *Tulipa*.

Dolichos (Hyacinth Bean).—*Ord.* Leguminosæ. Greenhouse evergreen twiner. *Nat.* India. *Int.* 1776. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Flowers*, rose; July. *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots, shoots twining round trellis, posts or pillars. *Pot*, Feb. *Water* moderately in winter, freely in sum. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in light soil in temp. 65° in Mar.; cuttings inserted in sandy soil under bell-glass in temp. 65° in Ap.

Dolphin Flower (*Delphinium consolida*)—see *Delphinium*.

Dombeya (Cape Bedding-flower) — *Ord.* Sterculiacæ. Stove evergreen shrub. *Nat.* S. Africa, Mauritius. *Int.* 1820. *Ht.* 6 to 10 ft. *Species* cultivated, 5. *Flowers*, red, white, rose, fragrant; Feb. to Dec. *Composi*, equal parts peat, loam, charcoal & sand. *Water* moderately Oct. to Feb.,

freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 70° to 80°. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in sandy peat under bell-glass in temp. 80° to 85° in Ap.

Dominica Oak (*Ilex sideroxyloides*)—see *Ilex*.

Doodia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Australia, N. S. Wales, N. Caledonia, Ceylon, Sandwich Islands, New Zealand. *Int.* 1803. *Ht.* 6 to 12 in. *Species* cultivated. 5. *Compost*, two parts loam, one part leaf-mould, charcoal & sand. *Pot.*, Feb., Mar. or Ap. *Position*, pots in shady part of greenhouse. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by spores sown on surface of sandy peat in pans under bell-glass in temp. 65° to 75° at any time.

Doronicum (Leopard's bane).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe, Siberia, Britain, As.a. *Int.* (foreign species) 1570. *Ht.* 1 to 3 ft. *Species* cultivated, 6; varieties several. *Flowers*, yellow; Ap. to Aug. *Soil*, ordinary, rich. *Position*, open borders, banks, or under shade of trees. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots in Oct. or Mar.

Doryanthes (Australian Giant Lily, Spear Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. *Orn. foliage.* *Nat.* N. S. Wales, Queensland. *Int.* 1800. *Ht.* 3 to 16 ft. *Species* cultivated, 2. *Flowers*, scarlet, red; July & Aug. *Compost*, equal parts loam & leaf-mould, little sand. *Position*, well drained pots in light airy greenhouse. *Pot.*, Feb., Mar. or Ap. *Water* very little Sept. to Ap., moderately afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 70°. *Propagate* by suckers removed from old plants & placed in small pots in temp. 55° to 65° at any time.

Doreas Wound-wort (*Solidago virgaurea angustifolia*)—see *Solidago*.

Dothering Grass (*Briza media*)—see *Briza*.

Dotted-flowered Gentian (*Gentiana punctata*)—see *Gentiana*.

Dotted-flowered St. John's-wort (*Hypericum punctatum*)—see *Hypericum*.

Dotted-fruited Thorn (*Cratægus punctata*)—see *Cratægus*.

Dotted-leaved Rhododendron (*Rhododendron punctatum*)—see *Rhododendron*.

Dotted Loose-strife (*Lysimachia punctata*)—see *Lysimachia*.

Dotted Sedge (*Carex punctata*)—see *Carex*.

Double Althæa-Frutex (*Hibiscus syriacus elegantissimus*)—see *Hibiscus*.

Double Arrow-head (*Sagittaria sagittifolia fl.-pl.*)—see *Sagittaria*.

Double Balsam Fir (*Abies Fraseri*)—see *Abies*.

Double Bird's-foot Trefoil (*Lotus corniculatus*)—see *Lotus*.

Double-blossomed Bindweed (*Calystegia pubescens fl.-pl.*)—see *Calystegia*.

Double-blossomed Furze (*Ulex europæus plenus*)—see *Ulex*.

Double-blossomed Peach-tree (*Amygdalus persica vulgaris fl.-pl.*)—see *Amygdalus*.

Double-blossomed Plum-tree (*Prunus domestica fl.-pl.*)—see *Prunus*.

Double-blossomed Rose Campion (*Lychnis coronaria fl.-pl.*)—see *Lychnis*.

Double Cuckoo-flower (*Cardamine pratensis fl.-pl.*)—see *Cardamine*.

Double Dropwort (*Spiræa filipendula plena*)—see *Spiræa*.

Double Dyer's-weed (*Genista tinctoria fl.-pl.*)—see *Genista*.

Double-flowered Bramble (*Rubus discolor* fl. pl. & *R. suffruticosa* fl. pl.)—see *Rubus*.

Double-flowered Cherry (*Cerasus vulgaris* fl. pl.)—see *Cerasus*.

Double-flowered Chinese Apple (*Pyrus spiciabilis* fl. pl.)—see *Pyrus*.

Double-flowered Chinese Plum-tree (*P. unius sinensis* fl. pl.)—see *Prunus*.

Double-flowered Dwarf Almond-tree (*Amygdalus pumila* fl. pl.)—see *Amygdalus*.

Double-flowered Fritillary (*Fritillaria meleagris plena*)—see *Fritillaria*.

Double-flowered Horse Chestnut (*Æsculus hippocastanum* fl. pl.)—see *Æsculus*.

Double-flowered Jasminum (*Jasminum officinale* fl. pl.)—see *Jasminum*.

Double-flowered Myrtle (*Myrtus communis* var. *belgica* fl. pl.)—see *Myrtus*.

Double-flowered Red Currant (*Ribes sanguineum plenum*)—see *Ribes*.

Double-flowered Red Horse Chestnut (*Æsculus hippocastanum rubra* fl. pl.)—see *Æsculus*.

Double-flowered Seaside Catch-fly (*Silene maritima* fl. pl.)—see *Silene*.

Double-flowered Soap-wort (*Saponaria caucasica* fl. pl.)—see *Saponaria*.

Double French Dwarf Marigold (*Tagetes patula pumila* fl. pl.)—see *Tagetes*.

Double Japanese Globe-flower (*Trollius japonicus* fl. pl.)—see *Trollius*.

Double-leaved Butcher's - broom (*Ruscus hypoglossum*)—see *Ruscus*.

Double-leaved Sundew (*Drosera dichotoma*)—see *Drosera*.

Double Marsh Marigold (*Caltha palustris* fl. pl.)—see *Caltha*.

Double Mayhead (*Matricaria inodora* fl. pl.)—see *Matricaria*.

Double Persian Ranunculus (*Ranunculus asiaticus* fl. pl.)—see *Ranunculus*.

Double Red Campion (*Lychnis dioica* fl. pl.)—see *Lychnis*.

Double Red Daisy (*Bellis perennis rubra plena*)—see *Bellis*.

Double Scarlet Avena (*Geum coccineum* fl. pl.)—see *Geum*.

Double Siberian Larkspur (*Delphinium grandiflorum* fl. pl.)—see *Delphinium*.

Double Spruce (*Abies nigra*)—see *Abies*.

Double Spruce Fir (*Abies nigra*)—see *Abies*.

Double Tongue (*Ruscus hypoglossum*)—see *Ruscus*.

Double White Camellia (*Camellia alba plena*)—see *Camellia*.

Double White Daisy (*Bellis perennis alba plena*)—see *Bellis*.

Douglas Spruce Fir (*Abies Douglasi*)—see *Abies*.

Douglasi.—Ord. Primulacæ. Hardy evergreen alpine plants. *Nat. Rocky Mountains. Int. 1827. Ht. 3 in. Species cultivated, l. Flowers, pink; Ap. Compost, equal parts peat & loam. Position, sunny rockery. Plant Oct., Nov., Mar. or Ap. Propagate by seeds sown ½ in. deep in sandy peat in cold frame, or under handlight in Mar. or Ap.*

Douglas's Honeysuckle (*Lonicera Douglasi*)—see *Lonicera*.

Douglas's Milkweed (*Asclepias Douglasi*)—see *Asclepias*.

Douglas's Thorn (*Crataegus Douglasi*)—see *Crataegus*.

- Dovaston's Yew-tree** (*Taxus baccata* var. *Dovastoni*)—see *Taxus*.
- Dovedale Moss** (*Saxifraga hypnoides*)—see *Saxifraga*.
- Dove-Dock** (*Tussilago farfara*)—see *Tussilago*.
- Dove Flower** (*Peristeria elata*)—see *Peristeria*.
- Dove Orchid** (*Peristeria elata*)—see *Peristeria*.
- Dove Plant** (*Peristeria elata*)—see *Peristeria*.
- Dove's-foot Geranium** (*Geranium molle*)—see *Geranium*.
- Down Thistle** (*Onopordon acanthium*)—see *Onopordon*.
- Downingia**.—Ord. Campanulacæ. Hardy annuals. *Nat.* California, N. W. America. *Int.* 1827. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, blue, white, yellow; June to Sept. *Soil*, ordinary, rich. *Position*, sunny beds or borders. *Sow* seeds where plants are to flower in Ap. *Thin* seedlings to 6 in. apart in May or June. *Pot culture*: *Compost*, equal parts loam, leaf-mould & sand. *Sow* seeds 3 in. deep in 5 or 6-in. pots placed in temp. 55°, or in cold frame in Ap. or May. *Water* moderately. *Apply* weak liquid manure when plants are in flower. *Place* plants when in flower in cool greenhouse or window.
- Downton Elm** (*Ulmus glabra* var. *pendula*)—see *Ulmus*.
- Down-leaved American Lime-tree** (*Tilia americana* var. *pubescens*)—see *Tilia*.
- Downy Alum Root** (*Heuchera pubescens*)—see *Heuchera*.
- Downy American Honeysuckle** (*Lonicera pubescens*)—see *Lonicera*.
- Downy Branched Aronia** (*Pyrus pubescens*)—see *Pyrus*.
- Downy Buckthorn** (*Rhamnus pubescens*)—see *Rhamnus*.
- Downy Cherry** (*Cerasus pubescens*)—see *Cerasus*.
- Downy Daphne** (*Daphne pubescens*)—see *Daphne*.
- Downy False Foxglove** (*Gerardia flava*)—see *Gerardia*.
- Downy-fruited Field Maple** (*Acer campestre* var. *hebecarpum*)—see *Acer*.
- Downy Honeysuckle** (*Lonicera tormentilla*)—see *Lonicera*.
- Downy Milfoil** (*Achillea pubescens*)—see *Achillea*.
- Downy Narrow-leaved American Lime-tree** (*Tilia americana* var. *pubescens leptophylla*)—see *Tilia*.
- Downy Norway Maple** (*Acer platanoides* var. *pubescens*)—see *Acer*.
- Downy Plum-tree** (*Prunus pubescens*)—see *Prunus*.
- Downy Poplar** (*Populus heterophylla*)—see *Populus*.
- Downy Sanicle** (*Sanicula europæa*)—see *Sanicula*.
- Downy Saxifrage** (*Saxifraga pubescens*)—see *Saxifraga*.
- Downy Sea Lavender** (*Statice puberula*)—see *Statice*.
- Downy Sedge** (*Carex tomentosa*)—see *Carex*.
- Downy St. John's-wort** (*Hypericum lanuginosum*)—see *Hypericum*.
- Downy Sun-rose** (*Helianthemum pilosella*)—see *Helianthemum*.
- Downy Thorn Apple** (*Datura Metel*)—see *Datura*.
- Downy Thyme** (*Thymus lanuginosus*)—see *Thymus*.
- Downy Willow** (*Salix happonum*)—see *Salix*.
- Downy Yellow Violet** (*Viola pubescens*)—see *Viola*.
- Draba** (Whitlow Grass).—Ord. Cruciferæ. Hardy annual, biennial, & perennial alpine plants; perennials only worth growing. *Nat.* Europe, Caucasus, Tauria, Siberia, Lapland, Quito Andes, Switzerland. *Int.* 1731. *Ht.* 2 to 12 in. *Species* cultivated, 12. *Flowers*, yellow, white, violet, purple; Mar. to June. *Soil*, ordinary. *Position*, crevices in sunny rockeries, or on old walls. *Plant*, Mar. or Ap. *Propagate* by seeds sown where plants are to grow in Ap.; division of roots in Mar.

Dracæna (Dragon-plant, Dragon Blood-tree).—*Ord.* Liliacææ. Stove & greenhouse evergreen plants. Orn. foliage. *Nat.* Africa, Canary Islands, Madagascar, Old Calabar, New Guinea, India, Java. *Int.* 1640. *Ht.* 2 to 40 ft. *Species* cultivated, 12; varieties numerous. *Flowers*, white or green; at all times of year. *Leaves*, variegated with various colours. *Compost*, two parts peat, one part loam & sand. *Position*, well drained pots in stove or greenhouse. *1st*, Feb. to Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Mar. to Sept. 55° to 65° for greenhouse, 75° to 85° for stove; Sept. to Mar. 45° to 50° for greenhouse, 55° to 65° for stove. *Propagate* by seeds sown 1 in. deep in pots of light sandy soil in temp. 85° in Mar.; cuttings of main stems cut into lengths of 1 in. & partially buried horizontally in pots of sandy soil in Mar.; cuttings of fleshy roots, inserted 1 in. deep in pots of sandy soil in temp. 75° to 80° in Mar. or Ap.; stem-rooting, Mar. or Ap.; offsets inserted 2 in. deep at any time.

Dracocephalum (Dragon's-head, Moldavian Balm).—*Ord.* Labiatææ. Hardy perennial herbs. *Nat.* Siberia, Russia, Japan, Turkestan, Himalayas, Dauria. *Int.* 1596. *Ht.* 6 in. to 2 ft. *Species* cultivated, 9; varieties several. *Flowers*, blue, white, purple, lilac, pink; May, June & July. *Soil*, light ordinary. *Position*, cool partially shady borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil outdoors in Ap.; cuttings of young shoots inserted in light sandy soil under handlight or in cold frame in Ap. or May; division of roots in Oct., Nov. or Mar.

Dracunculus (Dragon Arum, Snake-plant).—*Ord.* Oroidiææ. Hardy tubercus-rooted perennial. *Nat.* S. Europe. *Int.* 1548. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers* (spathes), chocolate-brown; July. *Leaves*, flesh colour mottled with black, resembling skin of snake. *Soil*, sandy. *Position*, well drained sunny border. *Plant* tubers 3 in. deep in Oct. or Nov. *Propagate* by division of tubers in Oct. or Mar.

Dragon Arum (*Arum dracunculus*)—see Arum.

Dragon Gum-plant (*Pterocarpus draco*)—see Pterocarpus.

Dragon Plant (*Dracana draco*)—see Dracæna.

Dragon Tree (*Dracana draco*)—see Dracæna.

Dragon's-blood Palm (*Calamus draco*)—see Calamus.

Dragon's-blood-plant (*Calamus draco* & *Geranium Robertianum*)—see Calamus & Geranium.

Dragon's-blood-tree (*Dracæna draco*)—see Dracæna.

Dragon's-head Gladiole (*Gladiolus dracocephalus*)—see Gladiolus.

Dragon's-mouth (*Antirrhinum majus*, *Arum crinitum*, & *Epidendrum macrochilum*)—see Antirrhinum, Arum, & Epidendrum.

Dragon's-mouth Orchid (*Epidendrum macrochilum*)—see Epidendrum.

Dragon's-water (*Calla palustris*)—see Calla.

Dragon-wort (*Polygonum bistorta*)—see Polygonum.

Drias Plant (*Thapsia garganica*)—see Thapsia.

Drye Orchis (*Ophrys fucifera*)—see Ophrys.

Drooping Bog Sedge (*Carex limosa*)—see Carex.

Drooping Catchfly (*Silene pendula*)—see Silene.

Drooping-flowered Garlic (*Allium cernuum*)—see Allium.

Drooping Golden Rod (*Solidago nutans*)—see Solidago.

Drooping Gum-tree (*Eucalyptus Risdoni* & *E. viminalis*)—see Eucalyptus.

Drooping Larch (*Larix pendula*)—see Larix.

Drooping-leaved Adam's Needle (*Yucca aloifolia* var. *pendula*)—see Yucca.

Drooping Saxifrage (*Saxifraga cernua*)—see Saxifraga.

Drooping Star of Bethlehem (*Ornithogalum nutans*)—see *Ornithogalum*.

Drooping Tulip (*Fritillaria meleagris*)—see *Fritillaria*.

Dropwort (*Spiræa filipendula*)—see *Spiræa*.

Drosera (Sundew, Lustwort, Redwort, Youth-wort).—*Ord.* Droseraceæ. Greenhouse & hardy annual & perennial insectivorous plants. *Nat.* Australia, Britain, S. America, Cape of Good Hope, Nepaul. *Int.* (foreign species) 1811. *Species* cultivated, 6 perennials, 3 annuals. *Compost*, equal parts living sphagnum moss, peat, potsherds. *Position*, well drained pots partly immersed in pan of water & covered with bell-glass in cool greenhouse. *Water* daily. *Temp.* for exotic species, 50° to 55° Sept. to Mar.; 55° to 65° Mar. to Sept. *Propagate* by seeds sown on surface of living sphagnum moss & peat in well drained pots under bell-glass in temp. 55° to 65° at any time; division of the crowns in Mar. or Ap.; cuttings of roots $\frac{1}{2}$ to 1 in. long embedded in pan of moss & peat under bell-glass in temp. 65° to 75°.

Drosophyllum (Portuguese Sundew).—*Ord.* Droseraceæ. Greenhouse shrubby insectivorous plants. *Nat.* S. Portugal, Africa. *Int.* 1869. *Ht.* 3 to 12 in. *Species* cultivated, 1. *Soil*, light sandy loam. *Position*, well drained pots close to glass in light, airy greenhouse. *Water* once or twice Sept. to Ap., very little afterwards. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by seeds sown on the surface of sandy loam in well drained pots in spring.

Drumhead Cabbage (*Brassica oleracea capitata*)—see *Brassica*.

Drumhead Lettuce (*Lactuca capitata*)—see *Lactuca*.

Drummond's Avens (*Dryas Drummondii*)—see *Dryas*.

Drummond's Side-saddle-flower (*Sarracenia Drummondii*)—see *Sarracenia*.

Dryas (Mountain Avens).—*Ord.* Rosaceæ. Hardy evergreen trailing plants. *Nat.* Britain, N. Europe, N. America. *Int.* (foreign species) 1800. *Ht.* 3 in. *Species* cultivated, 2. *Flowers*, golden yellow, white; June. *Soil*, moist peat. *Position*, sunny rockery or borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy peat in shallow pans or boxes in cold frame Ap. or May; cuttings of shoots 2 in. long inserted in sandy soil in cold frame in autn.; division of plants in Oct., Nov. or Mar.

Drymoglossum (Wood Tongue Fern).—*Ord.* Filices. Stove evergreen creeping fern. *Nat.* Himalayas, E. Indies, China, Japan, Borneo. *Int.* 1828. *Species* cultivated, 1. *Compost*, equal parts loam, peat, leaf-mould, pounded charcoal & sand. *Pot or plant*, Feb., Mar. or Ap. *Position*, well drained shallow pans or beds in Wardian case. *Water* moderately Oct. to Feb., freely afterwards. *Temp.*, Sept. to Mar. 55° to 60°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of sandy peat in temp. 65° to 75° at any time; division of rhizomes in Feb. or Mar.

Drypis.—*Ord.* Caryophyllacæ. Hardy herbaceous perennial. *Nat.* S. Europe. *Int.* 1775. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, pink, white; June. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct., Nov., Mar., Ap. *Propagate* by seeds sown in light soil in cold frame or under hand-light in Mar. or Ap.; cuttings inserted in sandy soil under hand-light or in cold frame in Sept. or Oct.

Duck's-foot (*Podophyllum peltatum*)—see *Podophyllum*.

Dudder Grass (*Adiantum capillus-veneris*)—see *Adiantum*.

Duke of Argyll's Tea-plant (*Lycium barbarum*)—see *Lycium*.

Dumb Cane (*Caladium seguinum*)—see *Caladium*.

Dumortier's Day Lily (*Hemerocallis Dumortieri*)—see *Hemerocallis*.

Dumpling (*Mesembryanthemum obcordellum*)—see *Mesembryanthemum*.

Durmast Oak (*Quercus pubescens*)—see *Quercus*.

- Dusky-flowered Geranium** (*Geranium phæum*)—see Geranium.
Dusty Miller (*Primula auricula*)—see Primula.
Dutch Agrimony (*Eupatorium cannabinum*)—see Eupatorium.
Dutch Beech (*Populus alba*)—see Populus.
Dutch Elm (*Ulmus suberosa*)—see Ulmus.
Dutch Grass (*Panicum molle*)—see Panicum.
Dutch Honeysuckle (*Lonicera periclymenum belgica*)—see Lonicera.
Dutch Mice (*Lathyrus tuberosus*)—see Lathyrus.
Dutch Myrtle (*Myrica Gale*)—see Myrica.
Dutchman's Butter (*Cassia glandulosa*)—see Cassia.
Dutchman's Breeches (*Dicentra cucullaria*)—see Dicentra.
Dutchman's Pipe (*Aristolochia siphon*)—see Aristolochia.
Dwarf Almond-tree (*Amygdalus nana*)—see Amygdalus.
Dwarf Alpine Candytuft (*Iberis petraea*)—see Iberis.
Dwarf Amellus Aster (*Aster bessarabicus*)—see Aster.
Dwarf American Birch (*Betula glandulosa*)—see Betula.
Dwarf American Iris (*Iris verna*)—see Iris.
Dwarf American Raspberry (*Rubus triflorus*)—see Rubus.
Dwarf Annual Sunflower (*Helianthus indicus*)—see Helianthus.
Dwarf Ash (*Fraxinus excelsior var. nana*)—see Fraxinus.
Dwarf Bellflower (*Campanula pumila*)—see Campanula.
Dwarf Birch (*Betula nana*)—see Betula.
Dwarf Blue-berry (*Vaccinium pennsylvanicum*)—see Vaccinium.
Dwarf Blue Lobelia (*Lobelia azurea nana*)—see Lobelia.
Dwarf Blue and White Lobelia (*Lobelia Paxtoniana*)—see Lobelia.
Dwarf Box-tree (*Buxus sempervirens suffruticosa*)—see Buxus.
Dwarf Brazilian Tree Fern (*Blechnum braziliense*)—see Blechnum.
Dwarf Buckthorn (*Rhamnus pumilus*)—see Rhamnus.
Dwarf Daffodil (*Narcissus minimus*)—see Narcissus.
Dwarf Cherry (*Cerasus pumila*)—see Cerasus.
Dwarf Chinese Arbor-vitæ (*Biota orientalis elegantissima*)—see Biota.
Dwarf Chinese Banana-tree (*Musa Cavendishi*)—see Musa.
Dwarfest Cinquefoil (*Potentilla minima*)—see Potentilla.
Dwarf Cinquefoil (*Potentilla nana*)—see Potentilla.
Dwarf Close-growing Lobelia (*Lobelia erinus compacta*)—see Lobelia.
Dwarf Crane's-bill (*Geranium subcaulescens*)—see Geranium.
Dwarf Creeping Fig-tree (*Ficus repens var. minima*)—see Ficus.
Dwarf Crimson-flowered Bramble (*Rubus arcticus*)—see Rubus.
Dwarf Crocus (*Orocus pusillus*)—see Crocus.
Dwarf Cud-weed (*Gnaphalium supinum*)—see Gnaphalium.
Dwarf Daffodil (*Narcissus minor*)—see Narcissus.
Dwarf Elder (*Sambucus humilis & Pulea grandis*)—see Sambucus & Pilea.
Dwarf Elm (*Ulmus campestris var. nana*)—see Ulmus.
Dwarf Eryngo (*Eryngium pusillum*)—see Eryngium.
Dwarf Evening Primrose (*Oenothera pumila*)—see Oenothera.
Dwarf Everlasting-flower (*Helichrysum bracteatum nanum*)—see Helichrysum.
Dwarf Furze (*Ulex nanus*)—see Ulex.
Dwarf Glaucous Azalea (*Azalea glaucous*)—see Azalea.

Dwarf Glaucous-leaved Torch Lily (*Tritoma uvaria glaucescens*)
—see Tritoma.

Dwarf Golden Holly (*Ilex crenata variegata*)—see Ilex.

Dwarf Golden Rod (*Solidago virgaurea var. cambrica*)—see Solidago.

Dwarf Gelder Rose (*Viburnum opulus nanum*)—see Viburnum.

Dwarf Honeysuckle (*Cornus suecica*)—see Cornus.

Dwarf Indian Crocus (*Pleione humilis*)—see Pleione.

Dwarf Indian Juniper (*Juniperus recurva*)—see Juniperus.

Dwarf Iris (*Iris pumila*)—see Iris.

Dwarf Jacob's-ladder (*Polemonium humile*)—see Polemonium.

Dwarf Japanese Holly (*Ilex crenata*)—see Ilex.

Dwarf Juniper (*Juniperus nanus*)—see Juniperus.

Dwarf Laburnum-tree (*Cytisus nanus*)—see Cytisus.

Dwarf Lake Iris (*Iris lacustris*)—see Iris.

Dwarf Lobelia (*Lobelia pumila*)—see Lobelia.

Dwarf Madwort (*Alyssum olympicum*)—see Alyssum.

Dwarf Medlar (*Pyrus chamæspilus*)—see Pyrus.

Dwarf Marigold (*Tagetes tenuifolia*)—see Tagetes.

Dwarf Mock Orange (*Philadelphus coronarius*)—see Philadelphus.

Dwarf Moly (*Allium chamæmoly*)—see Allium.

Dwarf Mulberry-tree (*Morus alba var. pumila*)—see Morus.

Dwarf Nasturtium (*Tropæolum minus*)—see Tropæolum.

Dwarf Nettle-tree (*Celtis pumila*)—see Celtis.

Dwarf Orchis (*Orchis ustulata*)—see Orchis.

Dwarf Pentstemon (*Pentstemon humilis* & *P. glabra*)—see Pentstemon.

Dwarf Perennial Lupine (*Lupinus nutkatensis*)—see Lupinus.

Dwarf Red Cedar (*Juniperus virginiana var. humilis*)—see Juniperus.

Dwarf Red-flowered Buck-eye (*Pavia rubra var. humilis*)—see Pavia.

Dwarf Red Larkspur (*Delphinium nudicaule*)—see Delphinium.

Dwarf Red and Yellow-flowered Buck-eye (*Pavia discolor*)—see Pavia.

Dwarf Rock Buckthorn (*Rhamnus rupestris*)—see Rhamnus.

Dwarf Rock Rose (*Cistus lusitanicus*)—see Cistus.

Dwarf Rosy-purple Tulip (*Tulipa pulchella*)—see Tulipa.

Dwarf Scarlet Begonia (*Begonia Davisii*)—see Begonia.

Dwarf Sea Lavender (*Statice nana*)—see Statice.

Dwarf Sedge (*Carex humilis*)—see Carex.

Dwarf Sheep's-bit-scabious (*Jasione humilis*)—see Jasione.

Dwarf Siberian Elm (*Ulmus pumila*)—see Ulmus.

Dwarf Small Daisy (*Bellium minus*)—see Bellium.

Dwarf Spiderwort (*Tradescantia pilosa*)—see Tradescantia.

Dwarf Spindle-tree (*Euonymus nanus*)—see Euonymus.

Dwarf Spruce (*Abies excelsa var. pygmæa*)—see Abies.

Dwarf Spurge (*Euphorbia exigua*)—see Euphorbia.

Dwarf Striped Marigold (*Tagetes signata pumila*)—see Tagetes.

Dwarf Sumach (*Rhus pumila* & *R. copallina*)—see Rhus.

Dwarf Thyme-leaved Willow (*Salix serpyllifolia*)—see Salix.

Dwarf Torch Lily (*Tritoma pumila*)—see Tritoma.

Dwarf Trailing Fuchsia (*Fuchsia minima*)—see Fuchsia.

Dwarf Tufted Sunflower (*Actinella scaposa*)—see Actinella.

- Dwarf Water Lily** (*Villarsia nymphaeoides*)—see Villarsia.
Dwarf Wild American Rose (*Rosa lucida*)—see Rosa.
Dwarf Willow (*Salix herbacea*)—see Salix.
Dwarf Wood Sorrel (*Oxalis tenella*)—see Oxalis.
Dwarf Yellow Tulip (*Tulipa celsiana*)—see Tulipa.
Dyckia.—Ord. Bromeliaceae. Greenhouse succulent orn. foliage plants. Nat. Brazil. Int. 1839. Ht. 1 to 2 ft. Species cultivated, 4. Flowers, yellow, orange; Feb. to Aug. Leaves, succulent, greyish green. Compost, two parts loam, one part leaf-mould, & little sand. Position, pots in light, airy greenhouse; outside June to Sept. Water moderately Ap. to Aug., little afterwards. Repot every five or six years; good drainage essential. Temp., Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. Propagate by offsets or suckers inserted in small pots in greenhouse at any time.
Dye Pine-tree (*Pinus Webbiana*)—see Pinus.
Dyer's Broom (*Genista tinctoria*)—see Genista.
Dyer's Buckthorn (*Rhamnus tinctorius*)—see Rhamnus.
Dyer's Fig-tree (*Ficus tinctoria*)—see Ficus.
Dyer's Mulberry-tree (*Morinda tinctoria*)—see Morinda.
Dyer's Oak (*Quercus tinctoria*)—see Quercus.
Dyer's Oleander (*Nerium tinctorium*)—see Nerium.
Dyer's Tick-seed (*Coreopsis tinctoria*)—see Coreopsis.
Eagle's-claw Maple (*Acer platanoides* var. *laciniatum*)—see Acer.
Eagle Fern (*Pteris aquilina*)—see Pteris.
Eardrops (*Fuchsia splendens*)—see Fuchsia.
Ear-leaved Primrose (*Primula auriculata*)—see Primula.
Ear-leaved Tick-seed (*Coreopsis auriculata*)—see Coreopsis.
Ear-leaved Umbrella-tree (*Magnolia Fraseri*)—see Magnolia.
Early American Saxifrage (*Saxifraga virginensis*)—see Saxifraga.
Early-blooming Rhododendron (*Rhododendron præcox*)—see Rhododendron.
Early Bulbous Iris (*Iris reticulata*)—see Iris.
Early-flowering Borago (*Borago orientalis*)—see Borago.
Early-flowering Broom (*Genista præcox*)—see Genista.
Early-flowering Honeysuckle (*Lonicera fragrantissima*)—see Lonicera.
Early-flowering Indian Crocus (*Pleione lagenaria*)—see Pleione.
Early-flowering Snowdrop (*Galanthus præcox*)—see Galanthus.
Early-flowering Squill (*Scilla bifolia*)—see Scilla.
Early-flowering Tickseed (*Coreopsis præcox*)—see Coreopsis.
Early-flowering White Rock-cress (*Arabis albidia*)—see Arabis.
Early Forget-me-not (*Myosotis dissitiflora*)—see Myosotis.
Early Gladiolus (*Gladiolus præcox*)—see Gladiolus.
Early Hill Forget-me-not (*Myosotis Collina*)—see Myosotis.
Early Meadow-rue (*Thalictrum dioicum*)—see Thalictrum.
Early White-flowered Saxifrage (*Saxifraga Burseriana*)—see Saxifraga.
Earning Grass (*Pinguicula vulgaris*)—see Pinguicula.
Earth Smoke (*Fumaria officinalis*)—see Fumaria.
Earthquakes (*Briza media*)—see Briza.
East Indian Arrow-root-plant (*Curcuma angustifolia*)—see Curcuma.
East Indian Basil (*Ocimum gratissimum*)—see Ocimum.
East Indian Bay-tree (*Persea indica*)—see Persea.
East Indian Birch (*Betula Bhojputra*)—see Betula.

East Indian Bloodwood (*Lagerstræmia Reginae*) — see Lagerstræmia.

East Indian Caoutchouc-tree (*Ficus elastica*) — see Ficus.

East Indian Cedar (*Cedrus deodara*) — see Cedrus.

East Indian Coral-tree (*Erythrina indica*) — see Erythrina.

East Indian Cork-tree (*Bignonia suberosa*) — see Bignonia.

East Indian Elk's-horn Fern (*Platyserium biforme*) — see Platyserium.

East Indian Elm (*Ulmus integrifolia*) — see Ulmus.

East Indian Flax (*Linum trigynum*) — see Linum.

East Indian Galingale (*Kæmpferia Galanga*) — see Kæmpferia.

East Indian Guava-tree (*Psidium indicum*) — see Psidium.

East Indian Hawthorn (*Raphiolepis indica*) — see Raphiolepis.

East Indian Hemp (*Cannabis sativa* & *Hibiscus cannabinus*) — see Cannabis & Hibiscus.

East Indian Honey Locust-tree (*Gleditschia indica*) — see Gleditschia.

East Indian Knotweed (*Polygonum brunonis*) — see Polygonum.

East Indian Matting Grass (*Cyperus corymbosa*) — see Cyperus.

East Indian Mugwort (*Artemisia argentea*) — see Artemisia.

East Indian Mulberry-tree (*Morus indica*) — see Morus.

East Indian Musk Mallow (*Hibiscus moschatatus*) — see Hibiscus.

East Indian Periwinkle (*Vinca rosea*) — see Vinca.

East Indian Pitcher-plant (*Nepenthes sanguinea*) — see Nepenthes.

East Indian Poke (*Phytolacca acinosa*) — see Phytolacca.

East Indian Red Water Lily (*Nymphaea rubra*) — see Nymphaea.

East Indian Rose Bay-tree (*Tabernæmontana coronaria*) — see Tabernæmontana.

East Indian Tamarisk-tree (*Tamarix indica*) — see Tamarix.

East Indian Thorn Apple (*Datura alba*) — see Datura.

East Indian Velvet-leaf (*Tournefortia argentea*) — see Tournefortia.

East Indian Yellow-wood (*Podocarpus latifolia*) — see Podocarpus.

Easter Bells (*Stellaria Holostea*) — see Stellaria.

Easter Flower (*Poinsettia pulcherrima*) — see Poinsettia.

Eastern Daffodil (*Narcissus orientalis*) — see Narcissus.

Eastern Guelder Rose (*Viburnum orientale*) — see Viburnum.

Eastern Honeysuckle (*Lonicera orientalis*) — see Lonicera.

Eastern Madwort (*Alyssum orientale*) — see Alyssum.

Eastern Plane-tree (*Platanus orientalis*) — see Platanus.

Eastern Spruce (*Abies orientalis*) — see Abies.

Eastern Thorn (*Cratægus orientalis*) — see Cratægus.

Ebony Splenwort (*Asplenium ebeneum*) — see Asplenium.

Ebony Tree (*Diospyrus ebenum*) — see Addenda.

Ecballium (Squirting Cucumber). — *Ord.* Cucurbitaceæ. Hardy trailing annual. *Orn.* fruiting. *Nat.* Mediterranean region. *Int.* 1548. *Species* cultivated, 1. *Flowers*, yellow; *June*. *Fruit*, green; *Aug.* *Soil*, ordinary. *Position*, sunny beds, borders, or banks. *Plant*, *June*. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° in *Ap.* or *May*.

Eccle Grass (*Pinguicula vulgaris*) — see Pinguicula.

Eccremocarpus (Chilian Glory-flower). — *Ord.* Bignoniaceæ. Half-hardy evergreen climbing plants. *Nat.* Chili, Peru. *Int.* 1825. *Ht.* 15 to 20 ft. *Species* cultivated, 2. *Flowers*, scarlet, orange-red, yellow; *July* to *Oct.* *Soil*, light rich. *Position*, against south or south-west walls. *Plant*,

June. *Protect roots in Oct. by layer of cinder ashes on surface of soil; branches in severe weather by mats. Propagate by seeds sown $\frac{1}{4}$ in. deep in well drained pots of light sandy soil in temp. 65° to 75° in Mar. or Ap.*

Eccremocarpus Vine (*Eccremocarpus scaber*).—see *Eccremocarpus*.

Echeveria.—*Ord.* Crassulaceæ. Greenhouse & half-hardy succulent plants. *Nat.* California, Mexico, S. Africa. *Int.* 1796. *Ht.* 6 to 24 in. *Species* cultivated, 16. *Flowers*, yellow, red, scarlet; May to Dec. *Indoor culture*: *Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, pots, well drained, close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely Mar. to Sept., little afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 60° to 70°. *Outdoor culture*: *Soil*, ordinary. *Position*, edgings to sunny flower beds or borders, or in groups on rockeries. *Plant*, May, close together to form edgings. *Lift* in Oct., place in pots or boxes, & store in cold frame or greenhouse during winter. *Propagate* by seeds sown on surface of above soil in well drained pots in temp. 55° to 65° in Mar.; cuttings of leaves or side shoots with base inserted in sandy soil in well drained pots in Aug. in temp. 55° to 65°. Do not water cuttings or leaves until they begin to shrivel.

Echinacea (Black Sampson, Purple Cone-flower).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* U.S. America. *Int.* 1799. *Ht.* 2 to 4 ft. *Species* cultivated, 2; varieties 2. *Flowers*, reddish purple, rose; June to Oct. *Soil*, deep rich light loam. *Position*, well drained sunny borders or rockeries. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in boxes of light soil in temp. 50° to 55° in Mar., or outdoors in sunny position in Ap.; division of roots in Oct., Mar. or Ap.

Echinocactus (Fly Cactus, Hedge-hog Cactus, Silvery Cactus, Simpson's Cactus, Hardy Cactus).—*Ord.* Cactaceæ. Greenhouse succulent plants. *Nat.* Bolivia, Brazil, Mexico. *Int.* 1796. *Ht.* 3 to 24 in. *Species* cultivated, 39. *Flowers*, yellow, white, rose, purple, green; Ap. to Aug. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. *Position*, well drained pots in sunny greenhouse or window. *Repot* every three or four years in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kinds in Ap.

Echinops (Globe Thistle).—*Ord.* Compositæ. Hardy perennials. *Nat.* Australia, S.E. Europe, W. Asia. *Int.* 1570. *Ht.* 3 to 7 ft. *Species* cultivated, 2; variety 1. *Flowers*, blue, white; June to Aug. *Soil*, ordinary. *Position*, well drained sunny borders. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Ap.; division of roots in Oct., Nov. or Mar.

Echinopsis (Hedge-hog Cactus).—*Ord.* Cactaceæ. Greenhouse succulent plants. *Nat.* Chili, Bolivia, Brazil, Peru, Mendoza. *Int.* 1835. *Ht.* 6 to 12 in. *Species* cultivated, 7; varieties, 4. *Flowers*, brown, creamy white, rose, yellow, white, fragrant; Jan. to July. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. *Position*, well drained pots in sunny greenhouse or window. *Repot* every three or four years in Mar. *Water* once a month Sept. to Ap., once a week afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil, kept barely moist in sum.; grafting on common kinds in Ap.

Echites (Savannah-flower).—*Ord.* Apocynaceæ. Stove evergreen twin-ing shrubs. *Nat.* Brazil, S. America, W. Indies. *Int.* 1733. *Ht.* 5 to 10 ft. *Species* cultivated, 6; varieties, several. *Flowers*, chocolate, purple, red, rose, yellow; white; July to Sept. *Compost*, rough fibry peat & one-fourth silver sand.

Position, well drained pots, with shoots trained to roof of stove or to wire trellis. **Pot**, Feb. or Mar. **Prune**, Oct., cutting away shoots that have flowered only. **Water** very little Oct. to Feb., moderately Feb. to Ap., freely afterwards. **Temp.**, Oct., 65° to 75°; Mar. to Oct., 75° to 85°. **Propagate** by cuttings of young side shoots 3 in. long inserted in pots of sandy peat under bell-glass in temp. 80° in Feb., Mar. or Ap.

Echium (Viper's Bugloss).—*Ord.* Boraginaceæ. Hardy annuals & biennials. *Nat.* S. Europe, Britain. *Int.* (foreign species) 1683. *Ht.* 6 in. to 4 ft. *Species* cultivated, 1 annual, 1 biennial. *Flowers*, red, violet, purple; July to Sept. *Soil*, ordinary. *Position*, sunny well drained borders or rockeries. *Plant*, Aug. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Ap. or Aug.

Edder-wort (*Arum dracontium*)—see Arum.

Edelweiss (*Leontopodium alpinum*)—see Leontopodium.

Edging Barberry (*Mahonia repens*)—see Mahonia.

Edible Fern (*Pteris aquilina*)—see Pteris.

Edible-fruited Barberry (*Berberis dulcis*)—see Berberis.

Edible-rooted Caraway (*Carum Gairdneri*)—see Carum.

Edwardsia (New Zealand Laburnum).—*Ord.* Leguminosæ. Half-hardy deciduous shrubs. *Nat.* New Zealand. *Int.* 1772. *Ht.* 6 to 12 ft. *Species* cultivated, 2. *Flowers*, yellow; May & June. *Soil*, deep rich loam. *Position*, against south or west wall. *Protect* in severe weather with mats. *Plant*, Oct. to Feb. *Prune* into shape in Feb. *Greenhouse culture*: Compost, two parts loam, one part leaf-mould & sand. *Pot*, Oct. or Nov. *Water* freely Ap. to Oct., very little afterwards. *Prune*, Feb. to Mar. *Temp.*, Oct. to Ap. 40° to 45°; Ap. to Oct. 50° to 65°. *Position*, greenhouse Oct. to May, outdoors May to Oct. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° in Ap.; cuttings inserted in sandy soil in temp. 55° in Mar.

Egg-bearing Gourd (*Cucurbita pepo*)—see Cucurbita.

Egg-berry (*Prunus padus*)—see Prunus.

Egg-plant (*Solanum melongena*)—see Solanum.

Eggs-and-Bacon (*Linaria vulgaris* & *Lotus corniculatus*)—see *Linaria* & *Lotus*.

Eggs-and-Bacon Daffodil (*Narcissus incomparabilis fl.-pl. var. Orange phenix*)—see *Narcissus*.

Eglantine (*Rosa rubiginosa*)—see Rosa.

Egyptian Bean (*Nelumbium speciosum*)—see *Nelumbium*.

Egyptian Ginger (*Colocasia esculenta*)—see *Colocasia*.

Egyptian Kidney Bean (*Dolichos Lab-lab*)—see *Dolichos*.

Egyptian Lily (*Richardia æthiopica*)—see *Richardia*.

Egyptian Lotus (*Nymphaea lotus*)—see *Nymphaea*.

Egyptian Privet (*Lawsonia alba*)—see *Lawsonia*.

Egyptian Rose (*Scabiosa atropurpurea*)—see *Scabiosa*.

Egyptian St. John's-wort (*Hypericum ægyptiacum*)—see *Hypericum*.

Egyptian Thorn (*Crataegus pyracantha* & *Acacia vera*)—see *Crataegus* & *Acacia*.

Egyptian Water Lily (*Nymphaea lotus*)—see *Nymphaea*.

Eight-petalled Begonia (*Begonia octopetala*)—see *Begonia*.

Elæagnus (Oleaster, Wild Olive, Missouri Silver-tree).—*Ord.* Elæagnaceæ. Hardy deciduous & evergreen shrubs. *Orn. foliage.* *Nat.* Orient, Japan, S. Europe, N. America. *Int.* 1633. *Ht.* 3 to 20 ft. *Species* cultivated, 6; varieties, several. *Flowers*, yellow, white, green, fragrant; May to Sept. *Leaves*, green or variegated with white. *Soil*, ordinary. *Position*, open sheltered dryish borders, or against south or west walls. *Plant* de-

ciduous species in Oct., Nov. or Dec.; evergreen in Ap. or Sept. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in boxes of light soil in temp. 55° in Mar.; cuttings inserted in sandy soil in cold frame in Sept.; layering in Oct.

Elatine Bell-flower (*Campanula Erinus*)—see *Campanula*.

Elder (*Sambucus nigra*)—see *Sambucus*.

Elderberry (*Sambucus nigra*)—see *Sambucus*.

Elder-scented Iris (*Iris sambucina*)—see *Iris*.

Elder-scented Orchis (*Orchis sambucina*)—see *Orchis*.

Elecampane (*Inula helenium*)—see *Inula*.

Elegant Bell-flower (*Campanula elegans*)—see *Campanula*.

Elegant-flowered American Cowslip (*Dodecatheon elegans*)—see *Dodecatheon*.

Elegant-flowered Tulip (*Tulipa elegans*)—see *Tulipa*.

Elegant Larkspur (*Delphinium elegans*)—see *Delphinium*.

Elegant Mariposa Lily (*Calochortus elegans*)—see *Calochortus*.

Elegant Starwort (*Aster elegans*)—see *Aster*.

Elegant St. John's-wort (*Hypericum elegans*)—see *Hypericum*.

Elephant's Ear (*Begonia Rex*)—see *Begonia*.

Elephant's Foot (*Testudinaria elephantipes*)—see *Testudinaria*.

Elephant Pumpkin (*Cucurbita maxima*)—see *Cucurbita*.

Elephant Thistle (*Silybum eburneum*)—see *Silybum*.

Elephant Thorn (*Acacia tomentosa*)—see *Acacia*.

Elephant's-tooth Cactus (*Mammillaria elephantidens*)—see *Mammillaria*.

Elephant's-trunk Plant (*Martynia proboscidea*)—see *Martynia*.

Elephant's Vine (*Cissus latifolia*)—see *Cissus*.

Eleven-o'Clock Lady (*Ornithogalum umbellatum*)—see *Ornithogalum*.

Elf Dock (*Inula helenium*)—see *Inula*.

Elizabeth's Catchfly (*Silene Elizabethæ*)—see *Silene*.

Elk-bark (*Magnolia glauca*)—see *Magnolia*.

Elk's-horn Fern (*Platycerium alcinorne*)—see *Platycerium*.

Elk Tree (*Andromeda arborea*)—see *Andromeda*.

Elliptic-leaved Ash (*Fraxinus americana* var. *elliptica*)—see *Fraxinus*.

Elm (*Ulmus campestris*)—see *Ulmus*.

Elm-leaved Sumach (*Rhus coriaria*)—see *Rhus*.

Elwes's Crocus (*Orocroc Elwesi*)—see *Crocus*.

Elwes's Snowdrop (*Galanthus Elwesi*)—see *Galanthus*.

Embothrium.—*Ord.* Proteaceæ. Half-hardy evergreen shrub. *Nat.* S. America. *Int.* 1851. *Ht.* 3 to 8 ft. *Species* cultivated, 1. *Flowers*, orange-scarlet; June to Sept. *Soil*, sandy peat. *Position*, against south walls outdoors S. of England, pots in cold greenhouse N. of England. *Protect* with mats in severe weather. *Plant*, Mar. or Ap. *Greenhouse culture*: *Repot*, Mar. *Prune*, Mar. *Water* moderately Oct. to Ap., freely in sum. *Place* plants in sunny position outdoors May to Oct. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 55° in spring.

Emodi Pine-tree (*Pinus longifolia*)—see *Pinus*.

Empetrum. Black-berried Heath, Crake-berry, Crow-berry, Moonog Heather).—*Ord.* Empetraceæ, Hardy evergreen fruiting shrub. *Nat.* Britain, Chili, Fuegia. *Int.* (foreign variety) 1833. *Ht.* 6 to 42 in. *Species* cultivated, 1; variety, 1. *Flowers*, pink, purple; May. *Berries*, black, red, edible. *Soil*, boggy. *Position*, damp, moist, shady. *Plant*, Mar. or Ap. *Propagate* by cuttings inserted in June, July or Aug. in sandy peat under bell-glass in shady position.

Empetrum-leaved St. John's-wort (*Hypericum empetrifolium*)—see Hypericum.

Enceno Oak (*Quercus agrifolia*)—see Quercus.

Encephalartos (Caffre Bread).—*Ord.* Cycadaceæ. Greenhouse evergreen plants. *Orn. foliage.* *Nat.* S. Africa. *Int.* 1835. *Ht.* 6 to 18 ft. *Species* cultivated, 13. *Leaves*, feather-shaped, bluish green. *Compost*, two parts good loam, one part sand. *Position*, well drained pots in light part of greenhouse. *Repot.* Mar. *Water* liberally Ap. to Aug., very little afterwards. *Growth* occasionally stationary for a few years. *Temp.*, Sept. to Ap. 55° to 60°; Ap. to Sept. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 85° to 95° in Mar. or Ap.

Endive (*Cichorium endivia*).—*Ord.* Compositæ. Hardy annual. Esculent-leaved salad vegetable. *Nat.* E. Indies. *Int.* 1548. *Ht.* 3 to 6 in. *Species* cultivated, 1; varieties many. *Flowers*, blue; July & Aug. *Soil*, light rich. *Position*, open garden or on south or west borders. *Sow* seeds $\frac{1}{2}$ in. deep in drills 4 in. apart in June for early crop, July for main crop, Aug. for late crop. *Transplant* seedlings when they have formed four leaves 12 in. apart each way. *Water* freely in dry weather. *Blanch* early crop in Aug., main crop in Sept., late crop in Oct. by covering each plant by slate, tile, board, or inverted pot with drainage hole plugged. *Left* remaining plants in Nov. & store close together in cold frame, covering them with dry leaves to ensure blanching. *Seed* two or three years old yield the dwarfest plants.

Endres's Bladder-wort (*Utricularia Endresi*)—see Utricularia.

Endres's Crane's-bill (*Geranium Endresi*)—see Geranium.

Engelmann's Spruce (*Abies commutata*)—see Abies.

English Arrow-root-plant (*Solanum tuberosum*)—see Solanum.

English Elm (*Ulmus campestris*)—see Ulmus.

English Iris (*Iris xiphoides*)—see Iris.

English Maidenhair (*Asplenium trichomanes*)—see Asplenium.

English Stonecrop (*Sedum anglicum*)—see Sedum.

English Sundew (*Drosera anglica*)—see Drosera.

English Truffle (*Tuber æstivum*)—see Tuber.

Entire-leafted Hickory (*Carya integrifolia*)—see Carya.

Entire-leaved American Cowslip (*Dodecatheon integrifolium*)—see Dodecatheon.

Entire-leaved Clematis (*Clematis integrifolia*)—see Clematis.

Entire-leaved Primula (*Primula integrifolia*)—see Primula.

Epacris (Australian Heath, Tasmanian Heath).—*Ord.* Epacridaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia, New Caledonia, New Zealand. *Int.* 1803. *Ht.* 1 to 4 ft. *Species* cultivated, 7; varieties many. *Flowers*, pink, red, white, scarlet, rose, orange; Jan. to May. *Compost*, three-fourths fibry peat, one-fourth silver sand. *Position*, light airy greenhouse Sept. to July, sunny place outdoors July to Sept. *Repot.* Ap., May, or June; good drainage essential. *Prune* shoots of erect kinds to within 1 in. of base directly after flowering; pendulous kinds about half-way. *Water* moderately at all times. *Syringe* plants daily Mar. to July. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to July, 55° to 60°. *Stimulants* not essential. *Propagate* by seeds sown immediately they ripen on surface of sandy peat under bell-glass in temp. 55°; cuttings of ends of shoots inserted in pots of sandy peat covered with bell-glass placed in cool greenhouse in Aug. or Ap.

Ephedra (Shrubby Horse-tail, Sea Grape).—*Ord.* Gnetaceæ. Hardy evergreen trailing shrubs. *Orn. fruited.* *Nat.* S. Europe. *Int.* 1750. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, white; June to Aug. *Berries*, red; Aug. to Sept.; edible. *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Sept., Mar., or Ap. *Propagate* by seeds sown 1 in. deep outdoors in Sept. or Oct. layering shoots in Oct.

Epidendrum (Dragon's-mouth Orchid, Tree Orchid).—*Ord.* Orchidaceæ. Stove & greenhouse epiphytal orchids. *Nat.* Bolivia, Mexico, Brazil, Costa Rica, New Grenada, Guatemala, Peru, Trinidad, Panama, Pernambuco, Central America, Columbia. *Int.* 1835. *Ht.* 1 to 4 ft. *Species* cultivated, 13 stove, 20 greenhouse. *Flowers*, white, yellow, orange, rose, crimson, lilac, purple, fragrant; Mar. to Nov. *Compost*, two parts fibry peat, one part chopped living sphagnum moss, charcoal & sand. *Position*, well drained pots, hanging baskets, or on blocks of wood. *Repot or block*, Feb. or Mar.; pots must be well drained. *Water* three times weekly Mar. to Aug.; once a week Aug. to Nov. & Feb. to Mar.; once a month Nov. to Feb. *Temp.* for stove species, 65° to 85° Mar. to Sept., 60° to 65° Sept. to Mar.; for greenhouse species, 45° to 55° Nov. to Ap., 55° to 65° Ap. to Nov. *Resting period*, Mar. to Nov. *Growing period*, Nov. to Mar. *Propagate* by division of plants, or by offsets when new growth begins.

Epigæa (American Ground Laurel, New England May-flower, Trailing Arbutus).—*Ord.* Ericaceæ. Hardy evergreen creeping shrub. *Nat.* N. States of America. *Int.* 1736. *Species* cultivated, 1. *Flowers*, white, red, fragrant; May. *Soil*, sandy peat. *Position*, shady borders or rockeries. *Plant*, Sept., Oct. or Ap. *Propagate* by division of plant in Oct. or Ap.

Epilebium (Blooming Sally, Bay Willow, Blood Vine, Rose Bay, Rose Elder, Codlins & Cream, Apple-pie, Cherry-pie, Custard Cups, Fiddle Grass).—*Ord.* Onagraceæ. Hardy perennial herbs. *Nat.* Britain, California, Europe, Peru, Sierra Nevada. *Int.* (foreign species) 1775. *Ht.* 6 in. to 6 ft. *Species* cultivated, 6; varieties, several. *Flowers*, rose, pink, crimson; May to Aug. *Soil*, ordinary. *Position*, shady or sunny borders, or side of water-courses. *Plant*, Oct., Nov. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shady position outdoors in Mar., Ap. or Aug.; division of roots in Oct. or Mar.

Epimedium (Barren-wort, Bishop's hat).—*Ord.* Berberidaceæ. Hardy herbaceous perennials. *Nat.* Europe, Japan, Persia. *Int.* 1830. *Ht.* 6 in. to 2 ft. *Species* cultivated, 5. *Flowers*, grey, crimson, yellow, violet, white; Ap., May. *Leaves*, green, margined with coppery bronze. *Soil*, sandy loam & peat. *Position*, cool shady border or rockery. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots in July or Aug.

Epipactis (Helleborine).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* Britain. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, purple, white, crimson; July to Sept. *Soil*, peat & chalk. *Position*, moist shady borders or near ponds or rivulets. *Plant*, Mar. or Ap. *Propagate* by division of plant in Mar. or Ap.

Epiphyllum (Leaf-flowering Cactus, Winter Cactus).—*Ord.* Cactaceæ. Succulent greenhouse trailing plants. *Nat.* Brazil, S. America. *Int.*, about 1800. *Species* cultivated, 2; varieties several. *Flowers*, white, purple, rose, crimson, scarlet; Nov. to May. *Compost*, equal parts turfy loam, peat & leaf-mould, one-fourth silver sand. *Position*, light warm greenhouse Sept. to June, sunny place outdoors or cold frame June to Sept. *Water* moderately Sept. to Ap., little more freely other times. *Temp.*, Nov. to Mar. 50° to 60°; Mar. to June, 55° to 65°; Sept. to Nov. 40° to 45°. *Propagate* by cuttings inserted singly in 2-in. pots filled with sandy soil & brick dust in Mar. or Ap.; grafting on *Pereskia aculeata* or *P. Bleo* in temp. 65° to 75° in Feb., Mar. or Ap.

Epipremnum (Tonga-plant).—*Ord.* Aradaceæ. Stove climbing plant. Orn. foliage. *Nat.* Malay Archipelago. *Int.*, date unknown. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Leaves*, dark green, pinnatifid. *Compost*, equal parts loam & peat, with little sand. *Position*, pots or beds; stems clinging to walls, pillars, or trunks of tree ferns. *Pot or plant*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 85°. *Propagate* by seeds sown in sandy peat in temp. 85° in Mar.; division of roots in Feb.

Epistephium.—*Ord.* Orchidaceæ. Stove terrestrial orchid. *Nat.* Bahia. *Int.* 1864. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, reddish purple; *sum.* *Compost*, two parts fibrous loam, one part sand. *Pot*, Feb.; good drainage essential; keep soil below rim of pot. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. *Syringe* freely in *sum.* *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Equal-leaved Bell-flower (*Campanula isophylla*)—see *Campanula*.

Equisetum (Horsetail, Fox-tailed Asparagus).—*Ord.* Equisetaceæ. Hardy deciduous herbaceous perennials. *Orn. foliage.* *Nat.* Britain. *Ht.* 1 to 6 ft. *Species* cultivated, 2. *Leaves*, green, narrow, rush-like, elegant. *Soil*, ordinary. *Position*, bogs, margins of ponds, moist shady corners, or in pots in a cool shady greenhouse. *Plant or pot*, Ap. *Water* plants in pots freely whilst growing, moderately at other times. *Propagate* by division of rootstocks in Mar. or Ap.

Eragrostis (Feather Grass, Love Grass).—*Ord.* Graminaceæ. Hardy annual flowering grasses. *Nat.* Temperate Regions of the World. *Ht.* 12 to 18 in. *Species* cultivated, several. *Inflorescence*, light, feathery & graceful. *Soil*, ordinary. *Position*, open sunny beds or borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep where plants are to grow in Ap. *Gather* inflorescence in July & dry for winter use.

Eranthemum.—*Ord.* Acanthaceæ. Stove flowering plants. *Nat.* India, E. Indies, Polynesia, New Caledonia, Moulmein. *Int.* 1796. *Ht.* 1 to 4 ft. *Species* cultivated, 15. *Flowers*, blue, white, pink, purple; Nov. to Mar. *Compost*, equal parts peat, leaf-mould, loam & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to within one inch of base after flowering. *Apply* liquid or artificial manure occasionally to plants in flower. *Propagate* by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 75° Mar. to July.

Eranthis (Winter Aconite, Winter Hellebore, Winter Wolf's-bane).—*Ord.* Ranunculaceæ. Hardy tuberous-rooted perennial. *Nat.* W. Europe. *Int.* 1596. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, yellow; Dec. to Mar. *Soil*, ordinary. *Position*, shady borders, beds, lawns, under trees or on rockeries. *Plant* 2 in. deep & 2 in. apart in Oct., Nov. or Dec. *Tubers* should not be lifted, but left permanently in the soil. *Pot culture*: *Compost*, equal parts leaf-mould, loam & sand. *Position*, 3-in. pots or large pans in cool greenhouse or window. *Plant* tubers $\frac{1}{2}$ in. deep & close together in pots or pans in Oct. or Nov. *Water* moderately. *After flowering*, plant tubers out in borders. *Propagate* by division of tubers in Oct. or Nov.

Erect Bugle (*Ajuga genevensis*)—see *Ajuga*.

Erect Cactus (*Mamillaria erectus*)—see *Mamillaria*.

Erect Clematis (*Clematis erecta*)—see *Clematis*.

Eremostachys (Desert Rod).—*Ord.* Labiatae. Hardy perennial. *Nat.* Levant. *Int.* 1731. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; July. *Soil*, light rich. *Position*, sunny well drained borders. *Plant*, Oct. or Ap. *Cut* off spikes after flowering. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in sunny position outdoors in Ap.; division of roots in Oct. or Ap.

Eremurus.—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* Asia, Turkestan, Siberia, India. *Int.* 1800. *Ht.* 1 to 5 ft. *Species* cultivated, 6. *Flowers*, white, pink, yellow, brown; June to Sept. *Soil*, light deep rich loam. *Position*, sunny well drained beds or borders. *Plant*, Oct. or Mar. *Transplanting* must not be done oftener than is really necessary. *Propagate* by division of roots in Oct. or Mar.

Erianthus (Woolly Beard Grass, Ravenna Grass).—*Ord.* Graminaceæ. Hardy orn. foliage perennial grass. *Nat.* S. Europe. *Int.*, date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Inflorescence* similar to pampas plumes. *Leaves*, narrow, green. *Soil*, deep loam. *Position*, sunny well drained lawns or borders. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap.

Erica (Bell Heather, Cape Heath, Spring Heath, Winter Heath, Black Heath, Mediterranean Heath).—*Ord.* Ericaceæ. Hardy & greenhouse evergreen flowering shrubs. *Nat.* Cape of Good Hope, S. Europe, Britain. *Int.* (foreign species) 1658. *Ht.* 1 to 10 ft. *Species* cultivated, 90 greenhouse, 10 hardy; hybrids & varieties many. *Flowers*, red, white, yellow, scarlet, purple, lilac, pink; Jan. to Dec. *Culture of Hardy species*: *Soil*, sandy peat. *Position*, sunny rockeries, or margins of borders. *Plant*, Oct. or Mar. *Prune* straggly shoots in Ap. *Culture of Greenhouse species*: *Compost*, two-thirds fibrous peat, one-third silver sand. *Position*, well drained pots in light airy greenhouse Oct. to July, sunny place outdoors July to Oct. *Repot* autn. & winter-flowering kinds in Mar., sum.-flowering sorts in Sept. *Press* the compost firmly in pots. *Water* carefully always, giving sufficient to keep soil uniformly moist; rain, not spring water, essential. *Prune* shoots to within 1 or 2 in. of base immediately after flowering. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to July, 45° to 55°. *Soot-water* best stimulant. *Propagate* greenhouse species by cuttings of shoots 1 in. long inserted in well drained pot of sandy peat under bell-glass in temp. 60° to 70° in spring; hardy species by cuttings inserted in sandy peat under bell-glass or hand-light outdoors in Sept. or Oct.; division of plants in Oct.; layering shoots in Sept., Oct. or Nov.

Erigeron (Flea-bane).—*Ord.* Compositæ. Hardy herbaceous deciduous perennials. *Nat.* Britain, Turkestan, Himalayas, N. America, Rocky Mountains. *Int.* (foreign species) 1633. *Ht.* 4 to 24 in. *Species* cultivated, 8. *Flowers*, purple, violet, yellow, orange; May to Sept. *Soil*, ordinary. *Position*, sunny moist rockeries or borders. *Plant*, Oct. or Mar. *Cut* down stems after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in shady position outdoors in Ap., May or June; division of roots in Oct. or Mar.

Erinus.—*Ord.* Scrophularinaceæ. Hardy deciduous herbaceous perennial. *Nat.* Pyrenees. *Int.* 1739. *Ht.* 3 in. *Species* cultivated, 1; variety, 1. *Flowers*, purple, white; Mar. to May. *Soil*, decayed vegetable mould & old mortar. *Position*, crevices of old sunny walls or dryish rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown where plants are to grow in Ap.; division of plants in Ap.

Eriogonum.—*Ord.* Polygonaceæ. Hardy herbaceous perennials *Nat.* N.W. America. *Int.*, date unknown. *Ht.* 3 to 10 in. *Species* cultivated, 5. *Flowers*, white, yellow, rose; sum. *Soil*, ordinary. *Position*, open borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors in Ap.; division of roots in Mar.

Eriophorum (Cotton Grass, Hare's-tail Rush).—*Ord.* Cyperaceæ. Hardy aquatic perennials. *Nat.* Northern Hemisphere. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Inflorescence* borne in spikelets, with cottony tufts on their extremities. *Soil*, ordinary. *Position*, margins of ponds. *Plant*, Mar. *Propagate* by seeds sown where plants are to grow; division of plants in Mar.

Eriopsis.—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchid. *Nat.* S. America. *Int.* 1845. *Ht.* 10 in. *Species* cultivated, 1. *Flowers*, yellow, brown; winter. *Compost*, fibrous peat, little sphagnum moss. *Repot*, Mar. or Ap. *Position*, light sunny part of stove. *Water* three times weekly Mar. to Aug.; once weekly Aug. to Nov. & Feb. to Mar.; once a month other times. *Syrings* freely in sum. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Eriospermum.—*Ord.* Liliaceæ. Greenhouse deciduous bulbous plants. *Nat.* Cape of Good Hope. *Int.* 1820. *Ht.* 9 to 12 in. *Flowers*, blue,

yellow, white; July. *Species* cultivated, 4. *Compost*, two parts peat, one part river sand. *Position*, light airy greenhouse Oct. to May, sunny frame outdoors May to Oct. *Pot*, Aug., placing one bulb in a 5-in. pot. *Water* moderately Aug. to Ap., afterwards keep nearly dry. *Temp.*, Oct. to May 50° to 55°. *Propagate* by offsets placed in small pots in Aug. or Sept.

Eriostemon.—*Ord.* Rutaceæ. Greenhouse evergreen shrubs. *Nat.* Australia, New Caledonia. *Int.* 1822. *Ht.* 1 to 3 ft. *Species* cultivated, 6. *Flowers*, pink, white, rose; Mar. to June. *Compost*, equal parts sandy loam & peat. *Position*, well drained pots in light airy greenhouse. *Repot.*, Mar., pressing soil down firmly. *Water* moderately Sept. to Ap., freely afterwards. *Prune* straggly growths in Feb. *Temp.*, Sept. to Ap. 45° to 50°; Ap. to Sept. 50 to 60°. *Ventilate* greenhouse freely in sum. *Propagate* by cuttings 2 in. long inserted in sandy peat under bell-glass in temp. 60° in Mar.; grafting on *Correa alba* in Mar.

Eritrichium (Fairy Borage, Fairy Forget-me-not).—*Ord.* Boraginaceæ. Hardy perennial alpine plant. *Nat.* Alps. *Int.* 1869. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, sky-blue, yellow eye; May to Aug. *Compost*, equal parts broken limestone, sandstone, fibry loam, peat & sand. *Position*, sheltered crannies of exposed rockeries, where foliage can be protected from excessive moisture in winter. *Plant*, Ap. *Protect* by panes of glass in rainy weather. *Propagate* by division of plants in Ap.

Ermine-chop (*Mesembryanthemum erminium*)—see *Mesembryanthemum*.

Erodium (Heron's-bill).—*Ord.* Geraniaceæ. Hardy perennial herbs. *Nat.* Asia, Africa, Europe. *Int.* 1640. *Ht.* 3 to 12 in. *Species* cultivated, 6. *Flowers*, purple, violet, white, red; Ap. to Sept. *Soil*, sandy. *Position*, dry sunny borders or rockeries. *Plant*, Mar. or Ap. *Transplant* very seldom. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of sandy soil in temp. 55° in Mar. or Ap., transplanting seedlings outdoors in June or July; division of roots in Ap.

Eryngium (Sea Holly).—*Ord.* Umbelliferae. Hardy perennial herbs. Orn. foliage. *Nat.* Britain, Europe, Caucasus, Brazil, Mexico. *Int.* (foreign species) 1597. *Ht.* 1 to 6 ft. *Species* cultivated, 14. *Flowers*, blue, white; June to Sept. *Soil*, light sandy. *Position*, dryish sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in boxes of sandy soil in cold frame in Ap. or May; division of plants in Oct. or Ap.

Eryngo (*Eryngium amethystinum*)—see *Eryngium*.

Erysimum (Alpine Wallflower, Fairy Wallflower, Rock Wallflower, Rhœtian Wallflower).—*Ord.* Cruciferae. Hardy annuals, biennials & perennials. *Nat.* N. America, Alps of Jura, Norway. *Int.* 1823. *Ht.* 1 to 12 in. *Species* cultivated, 4 perennials, 2 biennials, 1 annual. *Flowers*, yellow, orange, fragrant; May to Aug. *Soil*, ordinary. *Position*, dryish sunny beds or rockeries. *Plant*, Mar. or Ap. *Propagate* annual species by seeds sown where plants are required to grow in Ap.; biennials, by seeds sown in sunny place outdoors in June, transplanting seedlings to flowering positions in Aug.; perennials, by seeds sown as advised for biennials, also by cuttings inserted in sandy soil under hand-light or cold frame in Aug., division of plants in Mar. or Ap.

Erythraea (Blush-wort, Centaury).—*Ord.* Gentianaceæ. Hardy perennial alpine plants. *Nat.* California, W. Europe. *Int.*, date unknown. *Ht.* 2 to 6 in. *Species* cultivated, 2. *Flowers*, rose, pink; Ap. to June. *Soil*, sandy loam. *Position*, sunny rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in cold frame in Ap.; division of plants in Mar. or Ap.

Epiphytal Rhododendron (*Rhododendron Dalhousiae*)—see *Rhododendron*.

Erythrina (Coral-tree).—*Ord.* Leguminosæ. Half-hardy herbaceous

perennials & greenhouse-deciduous shrubs. Flowering & orn. foliage. *Nat.* Brazil, E. Indies. *Int.* 1890. *Ht.* 6 to 20 ft. *Species* cultivated, 2; varieties several. *Flowers*, rich scarlet; May to Sept. *Culture of E. crista-galli*. *Compost*, equal parts loam, peat, well decayed manure & sand. *Position*, pots in warm greenhouse, or at base of south wall S. of England. *Pot or plant*, Mar. *Prune* shoots away close to old wood in Oct. *Water* freely Ap. to Sept.; keep almost dry remainder of time. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Store* plants in pots on their sides in greenhouse during winter. *Place* in light part of structure Mar. to June, then stand in sunny position outdoors. *Protect* outdoor plants with covering of ashes. *Culture of shrubby species*: *Compost*, same as above. *Position*, pots in warm sunny greenhouse. *Pot*, Mar. *Prune* moderately after flowering. *Water* freely Ap. to Sept.; keep nearly dry afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to Sept. 60° to 70°. *Propagate* by cuttings of young shoots removed in spring with portion of old wood attached & inserted singly in well drained pots of sandy peat in temp. 75°.

Erythronium (Dog's-tooth Violet, Yellow Serpent, Serpent's-tongue, Yellow Adder's-tongue).—*Ord.* Liliaceæ. Hardy bulbous perennials. *Nat.* Europe, N. America. *Int.* 1596. *Ht.* 3 to 6 in. *Species* cultivated, 3. *Flowers*, yellow, rose, purple, cream; Mar. to May. *Compost*, equal parts loam, peat & leaf-mould. *Position*, sheltered rockeries, beds, borders, or under shade of trees. *Plant* bulbs 3 in. deep & 2 in. apart in Aug. *Transplant* very seldom. *Topdress* annually with decayed manure. *Propagate* by offsets in Aug. *Pot culture*: *Compost*, same as above. *Plant* bulbs 1 in. deep & $\frac{1}{2}$ in. apart in well drained pots in Aug. *Store* pots in cold frame during winter. *Water* very little until Feb., then give a moderate supply. *Place* plants in greenhouse or window to flower in Mar.

Escallonia (Chilian Gum Box).—*Ord.* Saxifragaceæ. Half-hardy evergreen shrubs. *Nat.* Chili, New Grenada, Patagonia, Valdivia, Organ Mountains, Chiloe. *Int.* 1827. *Ht.* 2 to 10 ft. *Species* cultivated, 5. *Flowers*, white, crimson, rose, red; June, July. *Soil*, ordinary rich, well drained. *Position*, against south walls in Midlands & in open garden S. of England, may also be planted against back walls of cold greenhouses. *Plant*, Oct., Nov., Mar. or Ap. *Prune* straggly shoots only in Ap. *Propagate* by cuttings of half-ripened shoots inserted in sandy soil under bell-glass Aug. or Sept.; layering shoots in Oct.; suckers removed & replanted in Ap.

Eschscholtzia (Californian Poppy).—*Ord.* Papaveraceæ. Hardy annual flowering plants. *Nat.* California. *Int.* 1790. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties several. *Flowers*, orange, orange-crimson, yellow, rose; June to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in Aug. or Ap. where plants are to flower. *Thin* seedlings out to 2 in. apart when 1 in. high.

Esparto Grass (*Stipa tenacissima*)—see *Stipa*.

Eucalyptus (Australian Gum, Blue Gum, Tasmanian Cider-tree).—*Ord.* Myrtaceæ. Greenhouse & half-hardy evergreen trees. Orn. foliage. *Nat.* Australia. *Int.* 1810. *Ht.* in Europe, 5 to 30 ft. *Species* worth cultivating, 4. *Flowers*, purple or white; autn. or winter. *Leaves* mostly ovate-lanceolate, fragrant. *Compost*, two parts fibry loam, one part leaf-mould, charcoal & sand. *Position*, pots in greenhouse heated to temp. 45° to 60° in winter, 55° to 60° other times; dwelling rooms, sunny beds outdoors in sum.; sheltered places outdoors all the year S. of England. *Pot*, Mar. or Ap. *Plant* outdoors June; lift, Oct. *Water* plants in pots moderately Oct. to Ap., freely afterwards. *Pruning* not required. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of sandy soil in temp. 65° in Feb., Mar. or Ap.; young plants should be raised annually for pot culture. *E. globulus* and *Gummi* best species for outdoor culture; *citriflora* for pot culture.

Eucharidium.—*Ord.* Onagraceæ. Hardy annual flowering plants. *Nat.* California. *Int.* 1787. *Ht.* 9 to 12 in. *Species* cultivated, 3; varieties

several. *Flowers*, white, rose, red, lilac, purple; June to Oct. *Soil*, ordinary rich. *Position*, sunny well drained beds or borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep where plants are to grow in Aug. or Sept. for early-sum. flowering, in Mar. or Ap. for mid-sum. flowering, & June for autn. flowering. *Thin* seedlings to 2 in. apart when 1 in. high.

Eucharis (Amazon Lily, Sander's Lily).—*Ord.* Amaryllidaceæ. *Stove* bulbous flowering plants. Evergreen. *Nat.* New Grenada. *Int.* 1851. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, white; all seasons. *Compost*, two parts fibrous loam, one part peat, decomposed sheep manure & sand. *Position*, well drained pots on a bed or stage heated beneath to temp. 85° in plant stove. *Pot* in June or July, placing six bulbs in a 10-in. pot. *Press* compost down firmly. *Repotting* not needful oftener than once every three or four years. *Water* moderately Oct. to Ap., freely afterwards. *Syringe* freely in sum. *Liquid manure* apply twice a week after flower stems appear. *Topdress* established plants annually in Mar. with rich compost. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Dec. 55° to 65°; Dec. to Mar. 65° to 75°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil in temp. 85° in Feb. or Mar.; offsets removed from old bulbs & placed singly in 3-in. pots in June or July.

Eucomis (Pine-apple Flower, King's Flower).—*Ord.* Liliaceæ. Half-hardy bulbous flowering plants. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1760. *Ht.* 1 to 2 ft. *Species* cultivated, 4; variety, 1. *Flowers*, purple, green, brown; Mar. to Dec. *Pot culture*: *Compost*, two parts sandy loam, one part well decayed manure & sand. *Position*, well drained pots in light warm greenhouse. *Pot*, Oct. or Mar., placing one bulb in a 5-in. pot. *Water* very little Sept. to Mar., moderately Mar. to May, freely afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to Sept. 55° to 65°. *Apply* liquid manure occasionally when flower spike shows. *Outdoor culture*: *Soil*, ordinary light rich. *Position*, sunny well drained border. *Plant*, Sept., Oct. or Mar., placing bulbs 3 in. below surface & 6 in. apart. *Protect* in winter by covering of ashes, cocoanut-fibre refuse or manure. *Propagate* by offsets removed & transplanted in Sept. or Oct.

Eugenia (Rose Apple, Fruiting Myrtle).—*Ord.* Myrtaceæ. *Stove & greenhouse* flowering shrubs. Evergreen. *Nat.* Chili, W. Indies, Valdivia. *Int.* 1768. *Ht.* 4 to 20 ft. *Species* cultivated, 1 stove, 2 greenhouse, 1 variegated variety. *Flowers*, white; Feb. to June. *Fruit*, black, rose; globular, fragrant, edible; autn. *Compost*, two parts sandy loam, one leaf mould or sand. *Pot*, Feb. or Mar. *Position*, pots in stove or greenhouse. *Water* moderately Oct. to Ap. freely afterwards. *Syringe* Ap. to Aug. *Prune* straggly shoots in Mar. *Temp.* for stove species, 55° to 65° Sept. to Mar.; 65° to 75° Mar. to Sept.; for greenhouse species, 40° to 50° Oct. to Mar., 55° to 65° Mar. to Oct. *E. Ugni* may be grown against south wall outdoors S. of England. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 55° to 75° in sum.

Eulalia (Zebra-striped Rush).—*Ord.* Gramineæ. *Hardy orn.* foliaged grass. *Nat.* Japan. *Int.*, date unknown. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, purple; sum. *Leaves*, narrow, deep green, creamy, yellow. *Soil*, ordinary. *Position*, pots in cold greenhouse, on lawns, in borders. *Pot or plant*, Mar. or Ap. *Water* plants in pots moderately in winter, freely in sum. *Variegated* kinds best adapted for pot culture. *Propagate* by division of plants in Mar. or Ap.

Euonymus (Spindle-tree, Japanese Spindle-tree).—*Ord.* Celastraceæ. *Hardy & half-hardy* deciduous & evergreen shrubs. *Orn.* foliage. *Nat.* Europe, Britain, India, Japan, N. America. *Int.* (foreign species) 1686. *Ht.* 2 to 20 ft. *Species* cultivated, 5 deciduous, 4 evergreen; varieties several. *Leaves* mostly oval-shaped, green, or variegated with white & yellow. *Soil*, ordinary. *Position*, deciduous species in shrubberies; evergreen species against south or west walls, edgings to beds, window boxes, hedges & front of shrubberies. *Plant* deciduous species in Sept., Oct. or Nov.; evergreen in

Sept., Oct., Mar. or Ap. *Prune*, Oct. or Ap. *Good* seaside shrubs. *Pot culture of evergreen species*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in cool greenhouse, corridors, balconies, windows. *Pot*, Sept., Oct. or Mar. *Water* moderately in winter, freely other times. *Syringe* foliage frequently in sum. *Propagate* by cuttings of shoots of previous year's growth, 3 in. long, inserted in sandy soil in cool greenhouse, window, or frame, in Sept. or Oct.

Eupatorium (Hemp Agrimony, Thoroughwort).—*Ord.* Compositæ. Hardy herbaceous and greenhouse shrubby plants. *Nat.* Britain, Europe, Asia, N. & S. America, Mexico. *Int.* (foreign species) 1640. *Ht.* 1 to 9 ft. *Species* cultivated, 4 hardy, 2 greenhouse. *Flowers*, white, red, lilac, purple, fragrant; sum. & winter. *Culture of hardy species*: *Soil*, ordinary. *Position*, open borders, shrubberies. *Plant*, Oct., Nov., Mar. or Ap. *Culture of shrubby greenhouse species*: *Compost*, equal parts loam & dried cow manure with a little sand. *Position*, pots in light greenhouse Sept. to June; cold frame June to Sept. *Pot*, Mar. or Ap. *Prune* immediately after flowering. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 45° to 50°; Mar. to June 55° to 60°. *Apply* liquid manure frequently to plants in flower. Both species may be planted out in the open garden in June, have their shoots frequently pinched, & then be lifted & placed in pots for flowering in greenhouse. *Propagate* hardy species by division in Oct. or Mar.; greenhouse species by cuttings of young shoots inserted in sandy soil in temp. 55° to 65° in Mar. or Ap. For culture of *E. atrorubens* & *ianthinum* see *Hebeclinium*.

Euphorbia (Gum Thistle Spurge, Devil's Milk, Caper Spurge).—*Ord.* Euphorbiacæ. Stove and hardy flowering shrubs or herbs. *Nat.*, Britain, Europe, Mexico, Cape of Good Hope, Bahia, Bourbon. *Int.* (foreign species) 1570. *Ht.* 6 in. to 5 ft. *Species* cultivated, 2 stove, 8 hardy. *Flowers* (bracts), red, scarlet, green, yellow; sum. & winter. *Culture of stove species*: *Compost*, equal parts fibrous loam & peat with liberal amount of sand. *Position*, sunny dry part of stove, with shoots trained up roof, wall, or on trellis. *Pot*, Mar. or June. *Water* moderately Sept. to Jan.; keep almost dry Jan. to May; freely afterwards. *Temp.*, Jan. to May 50° to 55°; May to Sept. 65° to 75°; Sept. to Jan. 55° to 65°. *Prune* *E. fulgens* in June, cutting shoots back to within 1 in. of base. *Culture of Hardy species*: *Soil*, ordinary. *Position*, dry borders, banks, sunny rockeries. *Plant*, Mar. or Ap. *Propagate* stove species by cuttings of young shoots 3 in. long inserted in well drained pots of sandy compost in temp. 70° in May, June or July; hardy species by cuttings inserted in sandy soil in cold frame in sum., seeds sown in dryish positions outdoors in Ap., division of plants in Oct. or Ap.

Euphorbia Oil-plant (*Euphorbia lathyris*)—see Euphorbia.

European Box Thorn (*Lycium europæum*)—see Lycium.

European Cyclamen (*Cyclamen europæum*)—see Cyclamen.

European Palm (*Chamærops humilis*)—see Chamærops.

European Thistle (*Viscum album* & *Loranthus europæus*)—see *Viscum* & *Loranthus*.

Eurya.—*Ord.* Ternströmiacæ. Half-hardy evergreen shrub. *Orn.* foliage. *Nat.* Japan. *Int.* (variegated variety) 1871. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Leaves*, ovate, green & yellow. *Compost*, two parts loam, one part peat & sand. *Position*, pots in cool greenhouses, dwelling rooms or windows. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. May be grown against south wall outdoors in S. of England & Ireland. *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 60° to 65° in spring.

Eurybia—see *Olearia*.

Eurycles (Amboyne Lily, Brisbane Lily, Moreton Bay Lily).—*Ord.* Amaryllidacæ. Stove & greenhouse bulbous flowering plants. *Nat.* Amboyne, Queensland. *Int.* 1759. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*,

white; Mar. *Compost*, three parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in light part of stove & greenhouse. *Pot*, Feb. *Water* freely Mar. to Sept., keep nearly dry remainder of time. *Temp.* for stove species, Sept. to Mar. 50° to 55°, Mar. to Sept. 65° to 75°; for greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by offsets removed & placed singly in small pots in Feb.

Eutoca—see Phacelia.

Evening Flower (*Hesperanthia radiata*)—see Hesperanthia.

Evening Primrose (*Oenothera biennis*)—see Oenothera.

Evening Scented Rocket (*Hesperis fragrans*)—see Hesperis.

Ever-blooming Begonia (*Begonia semperflorens*)—see Begonia.

Ever-blooming Iris (*Iris ruthenica*)—see Iris.

Ever Fern (*Polypodium vulgare*)—see Polypodium.

Ever-flowering Cherry (*Cerasus semperflorens*)—see Cerasus.

Evergreen Alkanet (*Anchusa sempervirens*)—see Anchusa.

Evergreen Beech (*Fagus betuloides*)—see Fagus.

Evergreen Candytuft (*Iberis sempervirens*)—see Iberis.

Evergreen Cherry (*Cerasus Caroliniana*)—see Cerasus.

Evergreen Clematis (*Clematis calycina* & *C. cirrhosa*)—see Clematis.

Evergreen Cypress (*Cupressus sempervirens*)—see Cupressus.

Evergreen Flax (*Linum arboreum*)—see Linum.

Evergreen Honeysuckle (*Lonicera grata*)—see Lonicera.

Evergreen Laburnum-tree (*Cytisus racemosus*)—see Cytisus.

Evergreen Maple (*Acer heterophyllum*)—see Acer.

Evergreen Oak (*Quercus ilex*)—see Quercus.

Evergreen Privet (*Ligustrum vulgare semperflorens*)—see Ligustrum.

Evergreen Rose (*Rosa sempervirens*)—see Rosa.

Evergreen Thorn (*Crataegus pyracantha*)—see Crataegus.

Evergreen Trumpet-flower (*Bignonia sempervirens*)—see Bignonia.

Evergreen Virginian Creeper (*Ampelopsis sempervirens*)—see Ampelopsis.

Everlasting Flowers—see Acroclinium, Helichrysum, Rhodanth. & Xeranthemum.

Everlasting Pea (*Lathyrus latifolius*)—see Lathyrus.

Eve's-cushion (*Saxifraga hypnoides*)—see Saxifraga.

Eve Daisy (*Potentilla tormentilla*)—see Potentilla.

Ewer's Stonecrop (*Sedum Ewersi*)—see Sedum.

Exacum.—Ord. Gentianaceae. Stove annual flowering plants. *Nat. Ceylon. Int.* 1848. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, violet, purple; Sept. to Dec. *Compost*, equal parts peat, loam & sand. *Position*, pots in light part of plant stove. *Water* freely. *Temp.*, 65° to 75°. *Propagate* by seeds sown on surface of fine compost in temp. 75° to 80° in Ap., transplanting seedlings when large enough to handle into small pots & thence into a larger size later on.

Exeter Elm (*Ulmus montana* var. *fastigiata*)—see Ulmus.

Exeter Oak (*Quercus cerris* var. *Lucombeana*)—see Quercus.

Exochorda (Pearl Bush).—Ord. Rosaceae. Hardy deciduous shrub. *Nat. China. Ht.* 6 ft. *Int.*, date unknown. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, shrubberies. *Plant*, Oct. to Feb. *Prune* after flowering. *Propagate* by seeds sown in sandy soil in cold frame in spring or autn.; cuttings of young shoots inserted in sandy soil under bell glass in sum.; grafting on portions of its own roots in temp. 60° in spring.

Faba (Garden or Broad Bean).—*Ord.* Leguminosæ. Hardy annual edible-seeded vegetable. *Nat. country* not known; probably Egypt. *Int.*, date unknown, probably by the Romans. *Ht.* 2 to 3 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; June & July. *Soil*, deep strong loam, well manured. *Position*, open, sunny. *Sow* seeds of broad beans 3 in. deep & 4 in. apart in drills 3 ft. asunder; dwarf beans 2½ in. deep & 3 in. apart in drills 18 in. asunder. *Time to sow*, second week in Oct., Nov., Dec., Jan., Feb., Mar., Ap., May, June, July. *Earth-up* stems when plants are 6 in. high. *Pinch* off tops of plants when pods are formed. *Steep* seeds in soft water for 12 hours before sowing. *Seeds* retain full vegetative powers for two years. *Lime*, old mortar & wood ashes good for beans on old garden soils. *Apply* liquid manure when pods are formed.

Fabiana (False Heath).—*Ord.* Solanaceæ. Hardy flowering shrub. Evergreen. *Nat. Chili. Int.* 1838. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, against south or west walls; cool greenhouses N. of England. *Plant*, Oct. or Ap. *Water* plants in pots moderately in win'er, freely in sum. *Repot*, Mar. or Ap. *Propagate* by cuttings of firm young shoots inserted in sandy soil under bell-glass in cold greenhouse, or in cold frame in Mar. or Ap.

Fae Berry (*Ribes grossularia*)—see Ribes.

Fagus (Beech).—*Ord.* Cupuliferæ. Hardy deciduous & evergreen orn. foliated trees. *Nat.* Britain, Europe, Asia Minor, United States, Chili, Tierra del Fuego. *Int.* (foreign species) 1766. *Ht.* 50 to 100 ft. *Species* cultivated, 4 deciduous, 1 evergreen; varieties several. *Leaves*, oblong, light green, silver striped, golden striped, copper, purple. *Soil*, sandy loam. *Position*, open dryish shrubberies, lawns, copses. *Plant* deciduous species & varieties Oct. to Feb.; evergreen, Sept. or Ap. *Common* species (*F. sylvatica*) good hedge shrub. *Plant* 9 in. apart & keep sides closely trimmed. *Propagate* by seeds sown ½ in. deep in rows 15 in. apart in Mar. or Ap. transplanting seedlings when two years old; variegated kinds by grafting in Mar. on common species.

Fair-haired Hyacinth (*Muscari comosum*)—see Muscari.

Fair Maids of February (*Galanthus nivalis*)—see Galanthus.

Fair Maids of France (*Ranunculus aconitifolius*, *Saxifraga granulata*, *Achillea ptarmica*)—see Ranunculus, Saxifraga, Achillea.

Fair Maids of Kent (*Ranunculus aconitifolius*)—see Ranunculus.

Fairy Fingers (*Digitalis purpurea*)—see Digitalis.

Fairy Heron's-bill (*Erodium Reichardi*)—see Erodium.

Fairy Primrose (*Primula minima*)—see Primula.

Fairy Wallflower (*Erysimum pumilum*)—see Erysimum.

False Cherry (*Cerasus pseudo-cerasus*)—see Cerasus.

False Daisy (*Bellium bellioides*)—see Bellium.

False Ebony-tree (*Cytisus laburnum*)—see Cytisus.

False Goat's-beard (*Astilbe japonica*)—see Astilbe.

False Grape (*Ampelopsis quinquefolia*)—see Ampelopsis.

False Honeysuckle (*Azalea pontica*)—see Azalea.

False Jalap-plant (*Mirabilis jalapa*)—see Mirabilis.

False Varnish-tree (*Ailanthus glandulosa*)—see Ailanthus.

False Winter-green (*Pyrola rotundifolia*)—see Pyrola.

Fancy Pansy (*Viola tricolor*)—see Viola.

Fatsia (Japanese Aralia, Rice Paper-plant).—*Ord.* Araliaceæ. Half-hardy orn. foliated shrubs. *Nat.* Japan, Formosa. *Int.*, date unknown. *Ht.* 3 to 8 ft. *Species* cultivated, 2; varieties, 2. *Leaves*, digitate, deep shining green, variegated with white & yellow. *Compost*, two parts sandy loam, one part leaf-mould, decayed manure & sand. *Position*, well drained pots in cool or warm greenhouse, dwelling-room, or sheltered beds or borders outdoors in

sun. *Pot.* Feb., Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Ap. 40° to 50°; Ap. to Sept. 55° to 65°. *Propagate* by cuttings of roots inserted in light soil in temp. 80° in Mar. or Ap.: variegated kinds by grafting on common species in temp. 75° in Mar. or Ap.

Feather-few (*Pyrethrum parthenium*)—see *Pyrethrum*.

Feather-foil (*Hottonia palustris*)—see *Hottonia*.

Feather Grass (*Stipa pennata* & *Eragrostis elegans*)—see *Stipa* & *Eragrostis*.

Feathered Columbine (*Thalictrum aquilegifolium*)—see *Thalictrum*.

Feathered Elm (*Ulmus glabra*)—see *Ulmus*.

Feathered Pink (*Dianthus plumarius*)—see *Dianthus*.

Feathery Asparagus (*Asparagus plumosus*)—see *Asparagus*.

Feathery Grape-Hyacinth (*Muscari comosum monstrosus*)—see *Muscari*.

Fedia (Horn of Plenty).—*Ord.* Valerianaceæ. Hardy annual herb. *Nat.* S. Europe. *Int.* 1796. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, red; July. *Soil*, ordinary. *Position*, open beds or borders. *Propagate* by seeds sown in boxes or pots of light soil in temp. 55° in Mar., transplanting into borders in May, or outdoors where plants are to grow in Ap.

Feea—see *Trichomanes*.

Felicia.—*Ord.* Compositæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1769. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple, yellow; May. *Compost*, two parts peat, one sand. *Position*, well drained pots in cool greenhouse. *Pot.* Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to Oct. 50° to 60°. *Propagate* by seeds sown on surface of fine sandy peat in temp. 40° to 50° in Mar. or Ap.; cuttings of shoots inserted in pots of sandy soil under bell-glass in cool greenhouse, May to Aug.

Fellon Weed (*Senecio Jacobæa*)—see *Senecio*.

Felt-wort (*Verbascum Thapsus*)—see *Verbascum*.

Female Oak (*Quercus pedunculata*)—see *Quercus*.

Female Polypody (*Athyrium felix-femina*)—see *Athyrium*.

Fen-berry (*Vaccinium oxycoccus*)—see *Vaccinium*.

Fen Orchis (*Liparis Læslii*)—see *Liparis*.

Fen Rue (*Thalictrum flavum*)—see *Thalictrum*.

Fennel (*Foeniculum vulgare*)—see *Foeniculum*.

Fennel Flower (*Nigella damascena*)—see *Nigella*.

Fennel-leaved Pæony (*Pæonia tenuifolia*)—see *Pæonia*.

Fennel Oil-plant (*Foeniculum dulce* & *F. vulgare*)—see *Foeniculum*.

Fennugreek (*Trigonella fenum groseum*)—see *Trigonella*.

Fenzlia—see *Gilia*.

Ferdinandia—see *Zaluzania*.

Fern Bush (*Comptonia asplenifolia*)—see *Comptonia*.

Fern-leaved Beech (*Fagus sylvatica asplenifolia*)—see *Fagus*.

Fern-leaved Birch (*Betula populifolia laciniata*)—see *Betula*.

Fern-leaved Chestnut (*Castanea vesca asplenifolia*)—see *Castanea*.

Fern-leaved Heron's-bill (*Erodium trichomanesfolium*)—see *Erodium*.

Fern-leaved Speedwell (*Veronica laciniata*)—see *Veronica*.

Fern-leaved Sumach (*Rhus glabra laciniata*)—see *Rhus*.

Fern-leaved Weeping Birch (*Betula populifolia pendula*)—see *Betula*.

Fern-like Cypress (*Retinospora filicoides*)—see *Retinospora*.

Fern Palm (*Cycas revoluta*)—see *Cycas*.

Ferraria (Black Iris, Tiger Iris).—*Ord.* Iridaceæ. Hardy & half

hardy bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1755. *Ht.* 4 to 6 in. *Species* cultivated, 4 greenhouse, 1 hardy. *Flowers*, brown; Mar. to July. *Culture of greenhouse species*: *Compost*, two parts sandy loam, one peat. *Position*, cool greenhouse. *Pot*, Nov. Place bulbs with point just below surface & 1 to 2 in. apart. *Water* occasionally Nov. to Feb.; moderately Feb. to June; keep quite dry July to Nov. *Temp.*, Nov. to Feb. 40° to 45°; Feb. to June, 50° to 60°. *Culture of hardy species*: *Soil*, rich sandy. *Position*, sunny well drained border. *Plant* in Mar. or Ap. 2 to 3 in. deep. *Lift* bulbs in Nov. & store in cool, dry, frost-proof place until planting time, or protect in ground by covering of ashes, decayed leaves or manure in winter. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in temp. 50° to 60° in Mar. or Ap.; by offsets at potting or planting time.

Ferula (Giant Fennel).—*Ord.* Umbelliferae. Hardy herbaceous plants. Orn. foliage. *Nat.* S. Europe, Asia Minor, Persia, Turkestan, N. Africa. *Int.* 1596. *Ht.* 3 to 12 ft. *Species* cultivated, 8. *Flowers*, yellow; May to July. *Foliage*, elegant, fern-like, deep green. *Soil*, ordinary. *Position*, open, margins of shrubberies, borders, ponds, isolated on lawns & summits of rockeries or banks. *Plant*, Nov. to Mar. *Propagate* by seeds sown in Sept., Oct. or Nov. in light soil outdoors, transplanting seedlings following sum. division of roots in Oct. or Nov.

Fescue Grass (*Festuca ovina*)—see *Festuca*.

Festuca (Fescue Grass).—*Ord.* Gramineae. Hardy perennial grasses. Orn. foliage. *Nat.* Britain, Europe. *Int.* (foreign species), date unknown. *Ht.* 6 to 8 in. *Species* cultivated, 1; varieties, 2. *Leaves*, soft blue, green. *Outdoor culture*: *Soil*, ordinary. *Position*, edgings of flower beds or borders. *Plant*, Sept., Oct., Mar. or Ap. *Pot culture*: *Compost*, two parts good soil, one part leaf-mould & sand. *Position*, cold or warm greenhouses & windows. *Pot*, Mar. or Ap. *Water* moderately in winter, freely other times. *Propagate* by seeds sown outdoors in Ap.; division of tufts at potting or planting time.

Feverfew (*Pyrethrum parthenium*)—see *Pyrethrum*.

Fever Gum-tree (*Eucalyptus globulus*)—see *Eucalyptus*.

Fever Tree (*Eucalyptus globulus*)—see *Eucalyptus*.

Fever Twig (*Celastrus scandens*)—see *Celastrus*.

Ficus (Fig-tree, Benjamin-tree, Creeping Fig, India Rubber-plant, Banyan-tree).—*Ord.* Urticaceae. Stove, greenhouse & hardy deciduous & evergreen trees & shrubs. Orn. foliage & fruit-bearing. *Nat.* Australia, Asia, Mediterranean Region, India, S. Sea Islands, W. & E. Indies, N. S. Wales, Japan, China, Amboyna, Sierra Leone. *Int.*, Fig, 1548; India-rubber plant, 1815; Creeping Fig, 1721. *Ht.* 5 to 40 ft. *Species* cultivated, 12 stove, 10 greenhouse, 1 hardy. *Flowers* unisexual, borne inside the fruit. *Culture of orn. species*: *Compost*, three parts loam, one part peat & sand. *Position*, erect species (*F. elasticus*, etc.) in pots in stove, greenhouse or dwelling rooms; creeping species (*F. barbata*, *repens*, etc.) in beds with shoots clinging to walls, rockeries, etc. *Pot or plant*, Feb., Mar. or Ap. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* stove species daily Feb. to Aug. *Temp.* for stove species, 55° to 55° Oct. to Feb., 75° to 85° Feb. to Oct.; for greenhouse species, 50° to 55° Sept. to Mar., 60° to 70° Mar. to Sept. *Culture of India Rubber-plant in Rooms*: *Compost*, see above. *Position*, light, near windows, away from draughts. *Pot*, Mar. or Ap. *Water* once a week Nov. to Mar., twice & three times weekly other times. *Temp.*, Sept. to Ap. 40° to 50°; Ap. to Sept. 55° to 60°. *Sponge* leaves weekly. *Outdoor culture in sun.*: Plunge pots to rim in sunny beds middle of June. *Lift* & place in greenhouse again in Sept. *Water* freely daily. *Outdoor culture of Fig*: *Compost*, two parts fibry loam, one part brick rubbish & old mortar. *Position*, against south or south-west walls. *Plant*, Ap., in border 2 ft. deep & 3 ft. wide, enclosed with brick or concrete wall. *Mode of bearing*: entire

length of previous year's shoots; only one crop borne outdoors in England. *Prune*, Ap. or July, simply removing deformed, dead, or very weak branches. *Pinch* point off vigorous young shoots in July. *Apply* liquid manure once, in Aug. to trees bearing heavily. *Figlets* size of filberts remove in Sept. or Oct. *Protect* branches in Dec. with straw or mats, removing both in Ap. *Culture of Fig Under Glass*: *Compost*, position, border, time of planting as above. *Branches* trained up roof or against wall. *Mode of bearing*: On shoots of previous year's growth for first crop; those of current year for second crop. *Prune & pinch* as above. *Dishud* young shoots when too many are forming. *Water & syringe* freely in sum. *Apply* liquid manure occasionally in sum. *Temp. for forcing*: Jan. 50° to 55°; Feb. 60° to 65°; Mar. to Aug. 70° to 85°; Aug. to Oct. 10° to 65°; Oct. to Jan. 40° to 50°. *Pot culture of Fig*: *Compost*, turfy loam, little bonomeal. *Position*, ordinary greenhouse,inery or forcing house. *Pot*, Nov. to Ap. *Size of pots*, 10 or 12-in. *Water* freely when growing, very little when not. *Apply* liquid manure twice weekly to trees bearing fruit. *Syringe* daily when in growth. *Pinch* points off young shoots when latter are 9 in. long. *Protect* pots with covering of straw Nov. to Jan. & partially expose branches to the air. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 75° in Mar.; cuttings of shoots or stems inserted in sandy soil under bell-glass in temp. 65° to 75° in spring; layering shoots in Oct. or Nov.; suckers removed in autn.; grafting in spring.

Field Ash (*Pyrus aucuparia*)—see *Pyrus*.

Fig Marigold (*Mesembryanthemum crystallinum*)—see *Mesembryanthemum*.

Fig Tree (*Ficus carica*)—see *Ficus*.

Fig-wort (*Scrophularia nodosa*)—see *Scrophularia*.

Fijian Hare's-foot Fern (*Davallia fijiensis*)—see *Davallia*.

Fiji of Japan (*Wistaria sinensis*)—see *Wistaria*.

Filbert (*Corylus Avellana*)—see *Corylus*.

Filmy Fern—see *Hymenophyllum*, *Todea*, & *Trichomanes*.

Finger Fern (*Ceterach officinarum*)—see *Ceterach*.

Finger Flower (*Digitalis purpurea*)—see *Digitalis*.

Fir—see *Abies*, *Picea*, & *Pinus*.

Fire Bush (*Crataegus pyracantha*)—see *Crataegus*.

Fire Cracker (*Brodiaea coccinea* & *Cuphea platycentra*)—see *Brodiaea* & *Cuphea*.

Fish-bone Thistle (*Chamaepeuce casabonæ*)—see *Chamaepeuce*.

Fischer's Pink (*Dianthus Fischeri*)—see *Dianthus*.

Fittonia.—Ord. Acanthaceæ. Stove evergreen perennial trailing plants. Orn. foliage. *Nat. Peru. Int.* 1869. *Species* cultivated, 2; varieties, 2. *Leaves*, dark green or bright green, with carmine, red, or pure white veins. *Compost*, equal parts peat, loam & sand. *Position*, shallow pans, pots, or surface of beds in shady part of plant stove, also in Wardian cases. *Water* moderately Nov. to Feb., freely afterwards. *Temp.*, Oct. to Mar. 55° to 60°, Mar. to Oct. 65° to 75°. *Propagate* by cuttings of firm shoots inserted in sandy soil in temp. 75° to 85° under bell-glass in Feb., Mar. or Ap.; division of plants in Feb. or Mar.

Five-leaves (*Ampelopsis quinquefolia*)—see *Ampelopsis*.

Five-leaved Indian Cress (*Tropæolum pentaphyllum*)—see *Tropæolum*.

Flag (*Iris germanica*)—see *Iris*.

Flame Flower (*Tritoma uaria*)—see *Tritoma*.

Flame-flowered Indian Cress (*Tropæolum speciosum*)—see *Tropæolum*.

Flame-flowered Nasturtium (*Tropæolum speciosum*)—see *Tropæolum*.

- Flame Nettle** (*Coleus Blumei*)—see *Coleus*.
Flamingo Plant (*Anthurium Scherzerianum*)—see *Anthurium*.
Flannel Plant (*Verbascum Thapsus*)—see *Verbascum*.
Flap Dock (*Digitalis purpurea*)—see *Digitalis*.
Flaw Flower (*Anemone pulsatilla*)—see *Anemone*.
Flax (*Linum usitatissimum*)—see *Linum*.
Flax Lily (*Phormium tenax*)—see *Phormium*.
Flax-tail (*Typha latifolia*)—see *Typha*.
Flesh-coloured Speedwell (*Veronica incarnata*)—see *Veronica*.
Fleshy-leaved Wax-flower (*Hoya carmosa*)—see *Hoya*.
Fleur-de-Lis (*Iris pseudo-acorus*)—see *Iris*.
Florence Oil-plant (*Olea europæa*)—see *Olea*.
Florentine Iris (*Iris florentina*)—see *Iris*.
Florentine Rock-rose (*Cistus florentinus*)—see *Cistus*.
Florida Water Lily (*Nymphaea flava*)—see *Nymphaea*.
Florida Yew (*Taxus floridana*)—see *Taxus*.
Flower-de-Luce (*Iris pseudo-acorus*)—see *Iris*.
Flower-fence (*Cæsalpinia pulcherrima*)—see *Cæsalpinia*.
Flower-gentle (*Amarantus tricolor*)—see *Amarantus*.
Flower-of-a-day (*Tradescantia virginica*)—see *Tradescantia*.
Flower-of-an-hour (*Hibiscus Trionum*)—see *Hibiscus*.
Flower-of-Bristow (*Lychnis chalcædonica*)—see *Lychnis*.
Flower-of-Constantinople (*Lychnis chalcædonica*)—see *Lychnis*.
Flower-of-Tigris (*Tigridia pavonia*)—see *Tigridia*.
Flower-of-the-Axe (*Lobelia urens*)—see *Lobelia*.
Flower-of-the-Dead (*Oncidium tigrinum*)—see *Oncidium*.
Flowering Ash (*Fraxinus ornus*)—see *Fraxinus*.
Flowering Dogwood (*Cornus florida*)—see *Cornus*.
Flowering Fern (*Osmunda regalis*)—see *Osmunda*.
Flowering Grass (*Anomatheca cruenta*)—see *Anomatheca*.
Flowering Nutmeg-tree (*Lycocateria formosa*)—see *Lycocateria*.
Flowering Rush (*Butomus umbellatus*)—see *Butomus*.
Flowering Shot (*Canna indica*)—see *Canna*.
Fly Orchis (*Ophrys murifera*)—see *Ophrys*.
Fly-trap (*Dionæa muscipula*)—see *Dionæa*.
Fly Honeysuckle (*Lonicera xylosteum*)—see *Lonicera*.
Fenniculum (Fennel).—*Ord.* Umbelliferæ. Hardy perennial herb. Leaves used for sauces & garnishing. *Nat.* Britain, Europe. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary. *Position*, sunny border. *Plant*, Mar. or Ap., 12 in. apart in rows 15 in. asunder. *Remove* flower stems as soon as seen, unless seed is wanted. *Propagate* by seeds sown ½ in. deep in drills 6 in. apart in Mar.; division of roots in Mar.
Forbidden Fruit (*Citrus decumana*)—see *Citrus*.
Forget-me-not (*Myosotis palustris*)—see *Myosotis*.
Forked Bellflower (*Campanula erinus*)—see *Campanula*.
Forked Spleenwort (*Asplenium septentrionale*)—see *Asplenium*.
Forsythia (Japanese Golden-ball-tree, Chinese Golden-ball-tree).—*Ord.* Oleaceæ. Hardy flowering shrubs. Deciduous. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 6 to 10 ft. *Species* cultivated, 2; variety, 1. *Flowers*, yellow; Feb. to May. *Outdoor culture*: *Soil*, ordinary. *Position*, against south or west walls, or in sheltered parts of shrubbery. *Plant*, Oct. to Feb. *Prune* after flowering. *Pot culture*: *Compost*, two parts loam, one leaf-mould & sand. *Position*, well drained pots in cool or warm greenhouse Dec. to May, outdoors remainder of year. *Pot*, Oct. to Dec. *Water* very little till Mar.,

then apply freely. Propagate by cuttings inserted in sandy soil under bell-glass or handlight, or in cold frame, Oct. or Nov.; layering in Oct. or Nov.; grafting on the privet in Mar. or Ap.

Fortune's Bamboo (*Bambusa Fortunei*)—see *Bambusa*.

Fortune's Plantain Lily (*Funkia Fortunei*)—see *Funkia*.

Fortune's Round-leaved Box-tree (*Buxus sempervirens*)—see *Buxus*.

Fothergilla (American Witch Elder).—*Ord.* Hamamelidææ. Hardy flowering shrub. Deciduous. *Nat.* N. America. *Int.* 1765. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties, 4. *Flowers*, white, fragrant; Ap. to June. *Soil*, sandy peat. *Position*, moist shrubbery, borders. *Plant*, Oct. to Mar. *Prune* after flowering. Propagate by seeds sown $\frac{1}{2}$ in. deep in pans of moist sandy peat in temp. of 45° to 55° in Mar. or Ap.; layering shoots in Oct. or Nov.

Four-leaved Shamrock (*Trifolium repens purpureum*)—see *Trifolium*.

Fountain Plant (*Amarantus salicifolius*)—see *Amarantus*.

Fountain Tree (*Cedrus deodora*)—see *Cedrus*.

Fourcroya—see *Furcraea*.

Fox Bane (*Aconitum vulpina*)—see *Aconitum*.

Fox Chop (*Mesembryanthemum vulpinum*)—see *Mesembryanthemum*.

Foxglove (*Digitalis purpurea*)—see *Digitalis*.

Fox Rose (*Rosa spinosissima*)—see *Rosa*.

Fox's-brush Saxifrage (*Saxifraga lantoscana*)—see *Saxifraga*.

Fragaria (Common Strawberry, Chili Strawberry, Hautbois' Strawberry, Alpine Strawberry, India Strawberry).—*Ord.* Rosaceæ. Hardy or half-hardy perennial fruit-bearing & orn. trailing plants. *Nat.* Britain, Europe, S. & N. America, India, Japan. *Int.* (foreign species) 1629. *Ht.* 6 in. to 1 ft. *Species* cultivated, about 6; varieties numerous. *Culture of Trailing species (F. indica)*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in hanging baskets in cool greenhouse or window, or on sunny well drained rockery. *Pot or plant*, Mar. *Water* moderately. *Apply* liquid manure occasionally in sum. *Culture of Strawberry*: *Soil*, deep rich sandy loam; clay unsuitable. *Position*, open plots or borders, trenched 2 ft. deep; alpine kind under shade of trees or on banks. *Plant*, Aug., Sept., or Mar. 18 in. apart in rows $2\frac{1}{2}$ ft. asunder; alpine 6 in. apart. *Mulch* annually with manure in Mar., & a thin layer of straw in May. *Water* frequently during June. *Apply* liquid manure as soon as fruit changes colour. *Remove* runners when they appear. *No digging* between rows necessary. *Renew* beds every three or four years. *Pot culture*: *Compost*, two-thirds calcareous loam, one-third decayed manure, little bone dust. *Position*, on bed of cinder ashes outdoors Aug. to Oct.; frames Oct. to Jan.; greenhouses or vineries after Jan. *Pot* singly in 6-in. pots in Aug. *Water* moderately till Oct., very little till Jan., freely afterwards. *Fertilize* blossoms by means of camel-hair brush. *Thin* fruit when set to a few on each plant. *Plant* out in garden after fruiting. *Temp. for forcing*: Jan. to Mar. 45° to 55°; Mar. to ripening period, 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors, or in boxes in greenhouse in Mar. or Ap.; by runners pegged on surface of soil in 3-in. pots in June or July, or by removing rooted runners in Aug. Runners rooted into pots best for pot culture.

Fragile Bellflower (*Campanula fragilis*)—see *Campanula*.

Fragrant Cypress (*Cupressus fragrans*)—see *Cupressus*.

Fragrant Garland-flower (*Hedychium coronarium*)—see *Hedychium*.

Fragrant White-flowered Locust-tree (*Robinia pseudo-acacia*)—see *Robinia*.

Franciscea (Vegetable Mercury).—*Ord.* Scrophulariaceæ. *Stove*

evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1826. *Ht.* 1 to 3 ft. *Species* cultivated, 6; variety, 1. *Flowers*, purple, blue, violet, lavender, white, fragrant; Oct. to Aug. *Compost*, four parts each fibrous peat & leaf-mould, one part loam & sand. *Position*, pots in plant stove. *Pot* immediately after flowering; good drainage and firm potting essential. Prune moderately after flowering. *Pinch* off points of young shoots when latter are 6 in. long. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* freely Mar. to Aug. *Apply* liquid manure to healthy plants in sum. *Temp.*, Oct. to Mar. 50° to 55°; Mar. to Oct. 60° to 70°. *Propagate* by cuttings 2 to 3 in. long, inserted in sand under bell-glass in temp. 60° to 70°, Feb. to Aug.

Francoa (Maiden's Wreath, Wedding-flower).—*Ord.* Saxifragaceæ. Hardy & half-hardy perennial plants. *Nat.* Chili. *Int.* 1830. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, red, white, pink; July, Aug. *Outdoor culture*: *Soil*, light rich loam. *Position*, sunny sheltered borders, banks or rockeries. *Plant*, Mar. or Ap. *Pot culture*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in cool greenhouse, frame, or window. *Pot*, Mar. or Ap. *Water* moderately Oct. to Ap., freely afterwards. *Apply* little liquid or artificial manure to plants in flower. *Temp.*, Oct. to Ap. 40° to 50°; Ap. to Sept. 55° to 65°. *Propagate* by seeds sown on the surface of a well drained pan of sandy peat under bell-glass in temp. of 50° to 55° in Feb., Mar. or Ap.; division of plants at potting time.

Frankenia (Sea Heath).—*Ord.* Frankeniaceæ. Hardy flowering plants. Evergreen. *Nat.* Britain, S. Europe, Australia. *Int.* (foreign species), date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 6. *Flowers*, pink, red, rose; June to Aug. *Soil*, light sandy. *Position*, sunny dry rockeries or borders. *Plant*, Oct. or Ap. *Propagate* by division of plants in Oct. or Ap.

Frankincense Pine-tree (*Pinus Tieda*)—see *Pinus*.

Fraser's Balsam (*Abies Fraseri*)—see *Abies*.

Fraxinella (*Dictamnus fraxinella*)—see *Dictamnus*.

Fraxinus (Ash, Flowering Ash, Manna Ash).—*Ord.* Oleaceæ. Hardy deciduous trees. Orn. foliage & flowering. *Nat.* Britain, Europe, U.S. America, N. Africa, Nepal, Aleppo, Turkestan, Japan. *Int.* (foreign species) 1710. *Ht.* 20 to 50 ft. *Species* cultivated, about 13; varieties several. *Flowers*, white, green, yellow; Mar. to May. *Soil*, ordinary. *Position*, dryish, sheltered. *Plant*, Oct. to Feb. *Prune*, Oct. to Mar. *Propagate* by seeds, buried in dry sand for a year, then sown 1 in. deep in light soil outdoors in Feb., transplanting seedlings when a year old; grafting on common species in Mar.

Free-flowering Andromeda (*Andromeda floribunda*)—see *Andromeda*.

Free-flowering Chinese Apple (*Pyrus spectabilis floribunda*)—see *Pyrus*.

Free-flowering Pink (*Dianthus floribundus*)—see *Dianthus*.

Freesia.—*Ord.* Iridaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.*, date unknown. *Species* cultivated, 2; variety, 1. *Flowers*, yellow, white, orange, violet, very fragrant; May to Aug. *Pot culture*: *Compost*, equal parts decayed manure loam, leaf-mould & sand. *Position*, pots in cool greenhouse, frame or window. *Pot*, Aug. to flower in Jan., Oct. for Feb., Nov. for Mar., Dec. for Ap. *Plant* bulbs 1 in. deep & 2 in. apart. *Suitable sized pot*, 4½ in. diameter. *Stand* pots in cool position & give very little water until growth commences. *Water* freely when growth well advanced & until plants have flowered, then gradually decrease supply, keeping soil quite dry till July. *Temp.* not lower than 40°. *Apply* weak liquid or artificial manure to plants showing flower. *Repot*, annually. *Outdoor culture*: *Soil*, light rich sandy. *Position*, sunny well drained borders S. of England only. *Plant* bulbs 2 in. deep & 2 in. apart in Aug. or Sept. *Protect* in winter. *Propagate* by seeds sown ½ in. deep in pots

or pans of light sandy soil in cool greenhouse or frame as soon as ripe, or in Mar. or Ap.; by offsets at potting time. Do not transplant seedlings first year.

Fremontia (Slippery Elm).—*Ord.* Malvaceæ. Hardy flowering shrub. Deciduous. *Nat.* California. *Int.* 1851. *Ht.* 6 to 12 ft. *Species* cultivated, 1. *Flowers*, yellow; Ap. *Soil*, sandy loam. *Position*, against west or north walls or fences, or in shrubberies S. of England. *Plant*, Oct. to Mar. *Prune* after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in cold frame in autn. or spring; cuttings of young shoots inserted in sandy soil under bell-glass or frame in Mar. or Ap.

French Asparagus (*Ornithogalum pyrenaicum*)—see Ornithogalum.

French Bean (*Phaseolus vulgaris*)—see Phaseolus.

French Cowslip (*Primula auricula*)—see Primula.

French Daffodil (*Narcissus tazetta*)—see Narcissus.

French Furze (*Ulex europæus*)—see Ulex.

French Grass (*Phalaris arundinacea variegata*)—see Phalaris.

French Honeysuckle (*Hedysarum coronarium*)—see Hedysarum.

French Lavender (*Lavandula stæchas*)—see Lavandula.

French Marigold (*Tagetes patula*)—see Tagetes.

French Nut (*Juglans regia*)—see Juglans.

French Rose (*Rosa gallica*)—see Rosa.

French Sparrow Grass (*Ornithogalum pyrenaicum*)—see Ornithogalum.

French Willow (*Epilobium angustifolium*)—see Epilobium.

Fresh-water Soldier (*Stratiotes aloides*)—see Stratiotes.

Friar's Caps (*Aconitum napellus*)—see Aconitum.

Fringe Flower (*Schizanthus pinnatus*)—see Schizanthus.

Fringe Tree (*Chionanthus virginica*)—see Chionanthus.

Fringed Pink (*Dianthus superbus*)—see Dianthus.

Fringed Rhododendron (*Rhododendron ciliatum*)—see Rhododendron.

Fringed Sandwort (*Arenaria ciliata*)—see Arenaria.

Fringed Water Lily (*Villarsia nymphaeoides*)—see Villarsia.

Fringed-flowered Rose Mallow (*Hibiscus Rosa-sinensis schizopetalus*)—see Hibiscus.

Fritillaria (Fritillary, Crown Imperial, Chequered Daffodil, Chequered Lily, Drooping Tulip, Guinea-Hen-flower, Snake's-head Fritillary, Toad Lily, Persian Lily, Scarlet Fritillary, Pyrenean Fritillary, Broad leaved Fritillary).—*Ord.* Liliaceæ. Hardy bulbous plants. Deciduous. *Nat.* Britain, Caucasus, Sicily, Greece, Spain, Maritime Alps, Asia Minor, Persia, Turkestan, Altai Mountains, Siberia, China, Japan, N. America. *Int.* (foreign species) 1596. *Ht.* 6 in. to 3 ft. *Species* cultivated, about 30; varieties many. *Flowers*, purple, brown, lilac, crimson, green, rose, violet, blue, scarlet, white; Mar. to Aug. *Outdoor culture*: *Soil*, ordinary, deep rich. *Position*, shady borders for Crown Imperial & Snake's-head Fritillary; well drained open borders for other species. *Plant*, 4 to 6 in. deep & 6 to 8 in. apart, Sept. to Nov. *Top-dress* annually with decayed manure. Do not transplant bulbs oftener than once in four years. *Pot culture*: *Compost*, equal parts loam, peat, leaf-mould, decayed manure & sand. *Position*, well drained pots in cold frame or cold greenhouse. *Pot*, Sept. or Oct., placing one bulb in centre of 5, 6, or 8-in. pot. *Water* very little till growth begins, then give moderate supply. *Apply* liquid manure when plants show flower. *After* flowering gradually withhold water, keeping soil quite dry after foliage has died. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots or pans of sandy soil in cold frame or greenhouse as soon as ripe, or in spring; by offsets at planting time. Do

not transplant seedlings first year. *Seedlings* do not flower until four to six years old.

Fritillary (*Fritillaria meleagris*)—see *Fritillaria*.

Froebel's Begonia (*Begonia Froebeli*)—see *Begonia*.

Frog Orchis (*Habenaria viridis*)—see *Habenaria*.

Fuchsia (Ear Drops, Lady's Ear Drops, Brilliant Fuchsia, Scarlet Fuchsia, Globe-flowered Fuchsia, Slender Fuchsia, Small-leaved Fuchsia, Basket Fuchsia, Thyme-leaved Fuchsia).—*Ord.* Onagraceæ. (Greenhouse & hardy flowering shrubs. Deciduous. *Nat.* Brazil, Organ Mountains, Bolivia, Peru, Mexico, Columbia, Chili, Trop. America, Central America, W. Indies. *Int.* 1788. *Ht.* 3 to 8 ft. *Species* cultivated, 25; varieties innumerable. *Flowers*, nearly all shades of colour; sum. *Pot culture*: Compost, two parts good fibrous loam, one part well decayed manure & leaf-mould, with liberal quantity of silver or river sand. *Position*, shady part of greenhouse or window Mar. to July; sunny place outdoors July to Oct.; cool dry part of greenhouse or room remainder of year. *Pot* old plants in Feb. or Mar., young ones when needed. *Prune* old plants in Feb. *Water* moderately Mar. to May, freely May to Oct., very little at other times. *Temp.*, Oct. to Feb. 40° to 45°; Feb. to Oct. 55° to 65°. *Apply* liquid or artificial manure to healthy plants showing flower. *Pinch* out points of shoots frequently in spring & early sum. to induce bushy growth. *When* repotting old plants, remove soil from roots & place latter in small pots till growth begins, then shift into larger size. *Syringe* foliage Feb. to May. *Outdoor culture*: *Soil*, ordinary, deep rich. *Position*, well drained borders, base of south or west walls, or in sheltered position in the open S. of England. *Plant*, Oct. or Ap. *Prune* shoots off close to base in Nov. *Protect* in winter with layer of manure or leaves. *Sum. culture in Beds*: *Plant* out in June. *Left*, pot & store plants in greenhouse in Sept. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of light sandy soil in temp. 55° in Mar. or Ap.; cuttings of young shoots inserted singly in small pots of sandy soil in temp. 70° to 80° in Jan., Feb. or Mar., or in cool greenhouse or window in Ap., May or June.

Fuet (*Sempervivum tectorum*)—see *Sempervivum*.

Fulham Oak (*Quercus cerris Fulhamensis*)—see *Quercus*.

Fuller's Herb (*Saponaria officinalis*)—see *Saponaria*.

Fuller's Teazel (*Dipsacus Fullonum*)—see *Dipsacus*.

Funereal Cypress (*Cupressus funebris*)—see *Cupressus*.

Fumaria (Rampant Fumitory).—*Ord.* Fumariaceæ. Hardy annual climber. *Nat.* Europe (Britain), Asia. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, white, purple; May to Sept. *Soil*, ordinary. *Position*, against S.E. or W. walls, in open borders with shoots running up sticks, or against arbours & trellis-work. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, in Ap., where plants are to grow & flower.

Fume-wort (*Corydalis aurea*)—see *Corydalis*.

Funkia (Plantain Lily, Japanese Day Lily, Corfu Lily).—*Ord.* Liliaceæ. Hardy orn. foliaged herbaceous plants. Deciduous. *Nat.* Japan, China, Siberia. *Int.* 1790. *Ht.* 1 to 2 ft. *Species* cultivated, 6; varieties several. *Flowers*, lilac, white, fragrant; June to Sept. *Leaves*, large, deep green or variegated with white & yellow. *Soil*, ordinary, well enriched with decayed manure. *Position*, open sunny well drained borders. *Plant*, Oct. or Mar. *Top-dress* annually with decayed manure. *Pot culture*: Compost, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame Oct. to Mar., greenhouse or window Mar. to Oct. *Pot*, Mar. or Ap. *Water* moderately Oct. to Mar., freely Mar. to Oct. *Apply* liquid manure to healthy plants in flower. *Propagate* by division of crowns in Oct., Mar. or Ap.

Furcraea (Giant Mexican Lily).—*Ord.* Amaryllidaceæ. Greenhouse succulent plants. Orn. foliage. *Nat.* Mexico, Trop. America, S. America. *Int.* 1690. *Ht.* 3 to 30 ft. *Species* cultivated, 8. *Flowers*, green, white, yellow;

May to Nov. *Leaves*, long, fleshy, & armed with spines. *Compost*, two parts loam, one part old mortar & river sand. *Position*, pots or tubs in greenhouses; may be stood outside June to Sept. *Water* moderately Ap. to Aug., little afterwards. *Pot* every five or six years; good drainage essential. *Temp.*, winter, 50° to 55°; sum. 55° to 65°. *Propagate* by offsets inserted in small pots at any time.

Furze (*Ulex europæus*)—see *Ulex*.

Gagea (Yellow Star of Bethlehem).—*Ord.* Liliaceæ. Hardy deciduous bulbous plants. *Nat.* Europe (Britain), Asia. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; Mar. or Ap. *Soil*, sandy. *Position*, sunny borders, or in turf. *Plant* 3 in. deep & 3 in. apart, Aug. to Nov. *Lift* only when bulbs unhealthy. *Propagate* by offsets, treated as advised for bulbs.

Gaiter Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see *Cornus*, *Euonymus*, & *Viburnum*.

Gale (*Myrica gale*)—see *Myrica*.

Galingale (*Cyperus longus*)—see *Cyperus*.

Gallegaskins (*Primula veris*)—see *Primula*.

Gallow Grass (*Cannabis sativa*)—see *Cannabis*.

Gadriase Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see *Cornus*, *Euonymus*, & *Viburnum*.

Gaillardia (Blanket-flower).—*Ord.* Compositæ. Hardy annual & perennial herbaceous plants. *Nat.* U.S. America, Texas. *Int.* 1787. *Ht.* 18 in. to 3 ft. *Species* cultivated, 2 annuals, 1 perennial; varieties numerous. *Flowers*, yellow, crimson, red; June to Oct. *Soil*, moderately light rich. *Position*, sunny well drained beds or borders. *Plant*, Mar. or Ap. *Apply* weak liquid manure to plants in flower. *Mulch* beds with decayed manure in sum. *Propagate* annual & perennial species by seeds sown $\frac{1}{4}$ in. deep in shallow boxes of light mould in temp. 55° to 65° in Ap., transplanting seedlings outdoors in June; perennials & annuals by cuttings of shoots issuing from roots, inserted in sandy soil under hand-light or in cold frame, Aug. to Oct., perennials by division of plants Oct. or Mar.

Galanthus (Snowdrop, Candlemas Bells, Fair Maids of February).—*Ord.* Amaryllidaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* Britain (?), Pyrenees, Isle of Chios, Greece, Crimea, Caucasus, Smyrna, Central Asia Minor. *Int.*, date unknown. *Ht.* 4 to 12 in. *Species* cultivated, 6; varieties, 41. *Flowers*, white, green, yellow; Feb. to May. *Outdoor culture*: *Soil*, ordinary rich. *Position*, margins of beds; groups in open or shady borders; banks, rockeries, or in turf. *Plant* bulbs 2 in. deep & 1 in. apart, Sept. to Dec. *Bulbs* must not be lifted annually, only when they show signs of deterioration. *Pot culture*: *Compost*, two parts ordinary soil, one part leaf-mould & sand. *Position*, cold or warm greenhouse, frame, or window. *Pot*, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 4 or 5-in. pots or shallow pans. *Place* pots, etc., in cold frame or outdoors & cover with cinder ashes until growth begins. *Water* moderately till after flowering, then gradually cease. *Plant* bulbs outdoors following autn. *Propagate* by seeds sown as soon as ripe $\frac{1}{2}$ in. deep & 2 in. apart in shallow boxes filled with light sandy soil & placed at base of north wall outdoors; by offsets treated as bulbs. Seedlings flower when 3 years old.

Galax (Wand-plant).—*Ord.* Diapensiaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1756. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, white; July. *Compost*, equal parts peat, leaf-mould & silver sand. *Position*, ledges of moist rockery or margin of rhododendron beds. *Plant*, Oct. to Mar. *Propagate* by division of plants Oct. to Mar.

Galaxia.—*Ord.* Iridaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1795. *Ht.* 6 to 10 in. *Species* cultivated, 2. *Flowers*, yellow, purple; May to Sept. *Compost*, two parts sandy peat, one part light loam. *Position*, well drained pots in cold frame or greenhouse.

Pot, Aug. to Nov., placing bulbs with apex just below surface, one in a 5-in., or three in a 6-in. pot. *Cover* pots with ashes till growth begins. *Water* moderately when growth commences, freely afterwards, cease after flowering. *Repot* annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or shallow boxes of sandy peat in cool greenhouse or frame Aug. or Sept.; by offsets treated as bulbs Aug. to Nov.

Galeandra (Casque-wort).—*Ord.* Orchidaceæ. *Stove* terrestrial orchids. *Deciduous*. *Nat.* S. & Trop. America. *Int.* 1840. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, brown, green, purple, white, red, yellow, violet; *Mar.* to *Aug.* *Compost*, fibrous peat & charcoal. *Position*, well drained pots, pans, or baskets in light part of stove. *Pot*, Feb. to *Mar.* *Water* freely *Mar.* to *Sept.*, moderately afterwards. *Syringe* plants daily *Mar.* to *Aug.* *Growing period*, *Mar.* to *Sept.* *Resting period*, *Sept.* to *Mar.* *Temp.* *Mar.* to *June*, 65° to 75°; *June* to *Aug.* 70° to 80°; *Aug.* to *Nov.* 60° to 70°; *Nov.* to *Mar.* 55° to 65°. *Propagate* by division of plants at potting time.

Galega (Goat's Rue).—*Ord.* Leguminosæ. *Hardy* perennial herbs. *Nat.* S. Europe, Caucasus, Persia. *Int.* 1568. *Ht.* 2 to 4 ft. *Species* cultivated, 2; variety, 1. *Flowers*, blue, white; *June* to *Sept.* *Soil*, ordinary. *Position*, open borders or shrubberies. *Plant*, *Oct.* to *Mar.* *Cut down* flower stems in *Oct.* *Replant* every two or three years. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in *Ap.* in ordinary soil in sunny position; division of roots in *Oct.* to *Mar.*

Galeopsis (Holy Hemp, Bee Nettle).—*Ord.* Labiatæ. *Hardy* annual flowering herbs. *Nat.* Europe (Britain). *Ht.* 8 to 10 in. *Species* cultivated, 2. *Flowers*, purple, yellow; *May* to *Oct.* *Soil*, ordinary. *Position*, open sunny borders or beds. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in *Ap.* where plants are to flower.

Gallant Flower (*Anemone coronaria*)—see *Anemone*.

Galtonia (Spire Lily).—*Ord.* Liliaceæ. *Hardy* bulbous flowering plants. *Deciduous*. *Nat.* S. Africa. *Int.*, date unknown. *Ht.* 2 to 3 ft. *Species* cultivated, 1; variety, 1 (variegated). *Flowers*, white, fragrant; *June* to *Oct.* *Outdoor culture*: *Soil*, ordinary rich, well drained. *Position*, open sunny borders. *Plant*, *Oct.* to *Mar.*, placing bulbs 6 in. deep & 6 in. apart. *Lift* & *replant* only when the bulbs show signs of deterioration. *Pot culture*: *Compost*, two parts loam, one part decayed manure & silver sand. *Position*, cold or warm greenhouse. *Pot*, *Oct.* to *Dec.* to flower in spring; *Feb.* to *Ap.* to flower in autn. *Place* one bulb with apex just showing through surface of soil in a well drained 6-in. pot. *Cover* with ashes in cold frame until growth begins. *Water* moderately when leaves appear; freely when in full growth; keep nearly dry after flowering. *Apply* weak liquid manure occasionally to plants in flower. *Bulbs* not adapted for flowering second time in pots. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shallow boxes of sandy soil in cold frame *Oct.* or *Mar.*; offsets treated as bulbs in autn. *Seedlings* flower when four or five years old.

Gamboge Tree (*Garcinia Morella pedicellata*)—see *Garcinia*.

Garcinia (Mangosteen-tree, Gamboge-tree).—*Ord.* Guttiferæ. *Stove* evergreen fruit-bearing tree. *Orn.* foliage. *Nat.* Molucca Islands. *Int.* 1789. *Ht.* 6 to 10 ft. *Species* cultivated, 1. *Flowers*, red; *June* to *Dec.* *Fruit*, size of an orange; chestnut-brown colour; edible. *Compost*, two parts peat, one part loam & sand. *Position*, pots or boxes in light part of plant stove. *Pot* & *prune*, *Feb.* to *Mar.* *Temp.*, *Mar.* to *Oct.* 65° to 85°; *Oct.* to *Mar.* 55° to 65°. *Water* moderately *Sept.* to *Ap.*, freely other times. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in silver sand under bell-glass in temp. 75° to 85° in spring or sum.

Garden Anemone (*Anemone coronaria*)—see *Anemone*.

Garden Angelica (*Angelica officinalis*)—see *Angelica*.

- Garden Bean** (*Faba vulgaris hortensis*)—see *Faba*.
Garden Cinquefoil (*Potentilla hybrida*)—see *Potentilla*.
Garden Cress (*Lepidium sativum*)—see *Lepidium*.
Garden Hedge Asparagus of Madeira (*Asparagus albus*)—see *Asparagus*.
Garden Parsley (*Petroselinum sativum*)—see *Petroselinum*.
Garden Pea (*Pisum sativum*)—see *Pisum*.
Garden Pink (*Dianthus plumarius*)—see *Dianthus*.
Garden Rhubarb (*Rheum raphaniticum*)—see *Rheum*.
Garden Rocket (*Hesperis matronalis*)—see *Hesperis*.
Garden Valerian (*Valeriana phu*)—see *Valeriana*.
Gardener's-delight (*Lychnis coronaria*)—see *Lychnis*.
Gardener's-garters (*Phalaris arundinacea variegata*)—see *Phalaris*.
Gardenia (Cape Jasmine).—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Sierra Leone, Cape of Good Hope, China, Japan. *Int.* 1754. *Ht.* 1 to 10 ft. *Species* cultivated, 5; varieties, 4. *Flowers*, white, fragrant; Jan. to Dec. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well-drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 55° to 65°. *Water* moderately Oct. to Feb., freely afterwards. *Syringe* daily (except when in bloom) Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.
Garget (*Phytolacca decandra*)—see *Phytolacca*.
Garland Crab (*Pyrus coronaria*)—see *Pyrus*.
Garland Flower (*Daphne cneorum*)—see *Daphne*.
Garlic (*Allium sativum*)—see *Allium*.
Garlick (*Allium sativum*)—see *Allium*.
Garnet Berry (*Ribes rubrum*)—see *Ribes*.
Garrya.—*Ord.* Cornaceæ. Hardy evergreen shrubs. *Orn.* foliage & flowering. *Nat.* California. *Int.* 1818. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers* (pendulous catkins), male & female borne on separate trees; greenish white; Mar. to June. *Berries*, black. *Soil*, ordinary, well drained. *Position*, against south or west walls outdoors; sheltered shrubberies S. of England. *Plant*, Oct. to Nov. or Mar. to May. Male plant only cultivated; female plant very rare in gardens. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy soil in cold frame Sept. or Oct.; cuttings of firm shoots 3 to 4 in. long inserted in sandy soil under handlight or cold frame Aug. to Sept.; layering shoots in Sept. & Oct.
Garten Berries (*Rubus fruticosus*)—see *Rubus*.
Gaskins (*Primula veris*)—see *Primula*.
Gas Plant (*Dictamnus fraxinella*)—see *Dictamnus*.
Gasteria.—*Ord.* Liliaceæ. Greenhouse evergreen succulent plants. *Orn.* foliage. *Nat.* Cape of Good Hope. *Int.* 1731. *Ht.* 2 in. to 2 ft. *Species* cultivated, about 12. *Flowers*, red, scarlet, orange; Oct. to Ap. *Leaves*, thick, fleshy, prickly; green, spotted with white, or purple. *Compost*, two parts loam, one part peat, old mortar & river sand. *Position*, well drained pots in sunny greenhouse or window. *Pot*, Mar. or Ap. *Water* moderately Ap. to Sept. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or pans of sandy soil temp. of 65° Mar. to Aug.
Gatten Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see *Cornus*, *Euonymus*, & *Viburnum*.

Gatteridge Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see *Cornus*, *Euonymus*, & *Viburnum*.

Gatter Tree (*Cornus sanguinea*, *Euonymus europæus*, & *Viburnum opulus*)—see *Cornus*, *Euonymus*, & *Viburnum*.

Gaultheria (Canada Tea, Creeping Winter-green, Partridge Berry, Shalton Shrub, Box Berry).—*Ord.* Ericacæ. Hardy evergreen shrubs. *Nat.* N. America. *Int.* 1762. *Ht.* 6 in. to 4 ft. *Species* cultivated, 2. *Flowers*, white, red; May to Aug. *Berries*, red or purple; edible. *Soil*, peaty. *Position*, moist rockeries or margins of open or shady shrubberies & beds. *Plant*, Sept. to Nov. or Mar. to May. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in bed of peaty soil outdoors in autn.

Gaura.—*Ord.* Onagariacæ. Hardy perennial herb. *Nat.* Texas. *Int.* 1850. *Ht.* 4 ft. *Species* cultivated, 1. *Flowers*, rose, white; May to Sept. *Soil*, light rich. *Position*, sunny well drained beds or borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{16}$ in. deep in light soil outdoors Ap., transplanting seedlings when 1 in. high to flowering position. Best treated as an annual.

Gay-bine (*Convolvulus nil*)—see *Convolvulus*.

Gay-feather (*Liatris pycnostachya*)—see *Liatris*.

Gazania (Treasure-flower).—*Ord.* Compositæ. Half hardy evergreen shrubs & perennial herbs. *Nat.* Cape of Good Hope. *Int.* 1755. *Ht.* 12 to 18 in. *Species* cultivated, 4; varieties several. *Flowers*, yellow, orange, black, white, green; June to Sept. *Indoor culture*: *Compost*, two parts loam & one of peat & sand. *Position*, well drained pots in sunny part of greenhouse. *Pot*, Mar. or Ap. *Water* very little Oct. to Mar., moderately other times. *Prune* into shape, Mar. *Temp.*, Mar. to Sept. 55° to 75°; Sept. to Mar., 45° to 55°. *Outdoor culture*: *Soil*, ordinary. *Position*, sunny; edgings to beds, or trailing over ledges of rockery. *Plant*, June. *Life* in Oct. & place in po's in heated greenhouse for the winter. *G. splendens* only adapted for outdoor culture. *Propagate* by cuttings of side shoots removed from base of plant & inserted in boxes of sandy soil or in a bed in cold frame July to Sept.; cuttings may remain in cold frame if protected from frost.

Gazes (*Ribes nigrum*)—see *Ribes*.

Gean Tree (*Prunus avium*)—see *Prunus*.

Geissorhiza (Tile-root).—*Ord.* Iridacæ. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 6 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, purple, blue, crimson; Ap. to June. *Compost*, two parts sandy peat & one of light loam. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing bulbs with apex just below surface, one in a 5-in., or three in a 6-in. pot. *Cover* pots with ashes till growth begins. *Water* moderately when leaves appear, freely afterwards, withholding completely after flowering. *Repot* annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or shallow boxes of sandy peat placed in cool greenhouse or frame Aug. or Sept.; offsets treated as bulbs, Aug. to Nov.

Genetyllis.—*Ord.* Myrtacæ. Greenhouse evergreen shrubs. *Nat.* Australia. *Int.* 1854. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, rose, red, yellow, crimson; Mar. to Aug. *Compost*, equal parts loam, peat & sand. *Position*, well drained pots in airy greenhouse. *Pot* firmly Feb. or Mar. *Water* moderately Sept. to Mar., freely Mar. to Sept. *Prune*, Feb. or Mar. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 50° to 60°. *Propagate* by cuttings of young shoots 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 40° to 50° in Ap. or May.

Genista (Broom, Needle Furze, Petty Whip).—*Ord.* Leguminosæ. Hardy deciduous flowering shrubs. *Nat.* Britain, Sicily, Sardinia, Naples, S. Portugal, Madeira, Asia. *Int.* (foreign species) 1750. *Ht.* 6 in. to 15 ft. *Species* cultivated, about 6. *Flowers*, yellow, pink, white; May to Sept. *Soil*, ordinary. *Position*, shrubbery for tall species, rockery for dwarf kinds. *Plant*,

Oct. to Mar. Prune after flowering. Propagate by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar. or Ap.; by layering in Oct. or Nov.; grafting on laburnum in Mar.; budding on similar stocks in July.

Gentian (*Gentiana acaulis*)—see *Gentiana*.

Gentian Gromwell (*Lithospermum prostratum*)—see *Lithospermum*.

Gentian Speedwell (*Veronica gentianoides*)—see *Veronica*.

Gentiana (Harvest Bells, Lung-flower, Wind-flower, Autumn Bell-flower, Calathian Violet, Gentian, Gentianella).—*Ord.* Gentianaceæ. Hardy perennial herbs. *Nat.* Britain, Pyrenees, Alps, Bavaria, Himalayas, Siberia, Persia, United States, California. *Int.* (foreign species) 1596. *Ht.* 3 in. to 4 ft. *Species* cultivated, about 20. *Flowers*, blue, yellow; Ap. to Dec. *Compost*, two parts good loam, one part peat & one part grit or broken limestone & coarse sand. *Position*, sunny borders for *G. acaulis* & tall kinds, sunny rockeries for *G. verna*; both to be fairly dry in winter & moist in sum. *Plant*, Sept., Oct., Mar. or Ap. *Top-dress* in Mar. with little decayed cow manure. *Water* freely on dry soils in sum. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans of sandy loam in cold frame, Mar.; division of plants Mar. Seeds take one to two years to germinate, & soil must be kept moderately moist.

Gentianella (*Gentiana acaulis*)—see *Gentiana*.

Geonoma.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Columbia, Brazil, Costa Rica, Nicaragua, New Grenada, Venezuela, Chippas. *Int.* 1820. *Ht.* 3 to 10 ft. *Species* cultivated, about 15. *Leaves*, feather-shaped; pale green. *Compost*, two parts peat, one part loam, sand & charcoal. *Position*, pots in moist shady part of plant stove. *Pot*, Feb. or Mar. *Water* freely Oct. to Feb., abundantly other times. *Syringe* daily. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 70°. *Propagate* by seeds sown 1 in. deep in above compost in pots in temp. 85° Mar.; offshoots from base of plants in small pots in temp. 80° to 85°, any time.

Georgia Bark-tree (*Pinckneya pubens*)—see *Pinckneya*.

Georgia Pine-tree (*Pinus australis*)—see *Pinus*.

Georgian Fleabane (*Inula glandulosa*)—see *Inula*.

Georgina—original name for *Dahlia*.

Geranium (Crane's-bill).—*Ord.* Geraniaceæ. Hardy herbaceous perennials. *Nat.* Britain, Pyrenees, Italy, Madeira, Georgia, Iberia, Siberia, Himalayas, Nepaul, Tauria, N. America. *Int.* (foreign species) 1576. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 16. *Flowers*, red, purple, violet, rose, lilac, brown, black, blue, crimson; May to Oct. *Soil*, ordinary rich. *Position*, tall kinds in sunny well drained borders, dwarf kinds on sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Apply* weak liquid manure occasionally to established plants in flower. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors Mar. or Ap., or in shallow boxes of sandy soil in cold frame or greenhouse Mar.; division of roots, Oct., Nov., Mar. or Ap.

Geranium-leaved Begonia (*Begonia geranioides*)—see *Begonia*.

German Camomile (*Matricaria chamomilla*)—see *Matricaria*.

German Catchfly (*Lychnis viscaria*)—see *Lychnis*.

German Iris (*Iris germanica*)—see *Iris*.

German Lilac (*Centranthus ruber*)—see *Centranthus*.

German Pink (*Dianthus Carthusianorum*)—see *Dianthus*.

Germander (*Teucrium chamædrys*)—see *Teucrium*.

Gesnera.—*Ord.* Gesneriaceæ. Stove tuberous-rooted & herbaceous perennials. Flowering & orn. foliage. *Nat.* Brazil, Columbia, Mexico. *Int.* 1752. *Ht.* 1 to 2 ft. *Species* cultivated, about 12; hybrids & varieties, several. *Flowers*, scarlet, yellow, red, pink, lilac, purple, vermilion, white; all the year round. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained

pots or pans in shady part of plant stove. *Pot*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* tubers 1 in. deep singly in 5-in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering* gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept. 65° to 85°; Sept. to Mar. 55° to 75°. *Store* when foliage has died down on their sides under stage till potting time in temp. of 50° to 55°. *Propagate* by seeds sown on surface of well drained pots of sandy peat, in temp. 75°, Mar. or Ap.; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; fully matured leaves pegged on surface of pots of sandy peat in temp. 75° to 85°.

Gethyllis (Cape Crocus).—*Ord.* Amaryllidaceæ. Greenhouse bulbous plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1780. *Ht.* 6 to 9 in. *Species* cultivated, 4. *Flowers*, white; June to Aug. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots in cold greenhouse or frame. *Pot*, Aug. to Nov., placing bulbs singly in 5-in. pots, with points just below surface. *Cover* with ashes in cold frame or greenhouse till growth begins. *Water* moderately from time growth begins till flowers fade; keep quite dry after foliage has died down until potting time. *Repot* annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in cold frame or greenhouse, Mar. or Ap.; offsets treated as bulbs at potting time.

Geum (Avens).—*Ord.* Rosaceæ. Hardy perennial flowering herbs. *Nat.* Europe (Britain), Asia Minor, Himalayas, N. America, Chiloe. *Int.* (foreign species) 1780. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8; variety, 1. *Flowers*, scarlet, purple, yellow, red, white; single & double; May to Sept. *Soil*, ordinary rich. *Position*, tall species in sunny borders, dwarf species on sunny rockeries. *Plant*, Oct. to Ap. *Cut* down flower stems in Sept. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in shallow boxes or well drained pots of light soil in cold frame, Ap. or July, or in sunny positions (similar depth & soil) outdoors, Ap. or Aug.; division of plants, Oct. to Ap.

Gherkin (*Cucumis sativa*)—see Cucumis.

Giant Arborvitæ (*Thuia gigantea*)—see Thuia.

Giant Asparagus (*Asparagus Broussoneti*)—see Asparagus.

Giant Catchfly (*Silene gigantea*)—see Silene.

Giant Cow-parsnip (*Heracleum giganteum*)—see Heracleum.

Giant Dahlia (*Dahlia imperialis*)—see Dahlia.

Giant Globe-flower (*Trollius Loddigesi*)—see Trollius.

Giant Gum-tree (*Eucalyptus amygdalina*)—see Eucalyptus.

Giant Heart-leaved Lily (*Lilium cordifolium giganteum*)—see

Lilium.

Giant Ivy (*Hedera Helix Rægnieriana*)—see Hedera.

Giant Knot-weed (*Polygonum Sieboldi*)—see Polygonum.

Giant Lily (*Lilium giganteum*)—see Lil um.

Giant Meadow-saffron (*Colchicum speciosum*)—see Colchicum.

Giant St. Bruno's Lily (*Anthericum liliastrum majus*)—see Anthericum.

Giant Sea-holly (*Eryngium giganteum*)—see Eryngium.

Giant Solomon's-seal (*Polygonatum giganteum*)—see Polygonatum.

Gibraltar Candytuft (*Iberis gibraltarrica*)—see Iberis.

Gilia.—*Ord.* Polemoniaceæ. Hardy annuals. *Nat.* California, Colorado, Chili. *Int.* 1826. *Ht.* 9 to 16 in. *Species* cultivated, 8. *Flowers*, lilac, pink, white, rose, purple, yellow, blue; May to Sept. *Soil*, ordinary. *Position*, sunny; dwarf kinds as edgings to beds or borders, tall kinds in groups in borders or beds. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap., where plants are to flower, thinning seedlings out in May 1 to 3 in. apart.

Gill (*Chrysanthemum segetum*)—see *Chrysanthemum*.

Gillenla (Bowman's root, Indian Physic, Western Dropwort).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* United States. *Int.* 1713. *Ht.* 15 in. *Species* cultivated, 1. *Flowers*, red, white; June to July. *Soil*, peaty. *Position*, moist shady bed or border. *Plant*, Oct. to Dec., or Mar. *Cut down* flowering stems in Sept. *Propagate* by division of roots in Mar. or Ap.

Gilliflower (*Dianthus caryophyllus* & *Cheiranthus Cheiri*)—see *Dianthus* & *Cheiranthus*.

Gillyflower (*Dianthus caryophyllus* & *Cheiranthus Cheiri*)—see *Dianthus* & *Cheiranthus*.

Ginger Pine-tree (*Cupressus Lawsoniana*)—see *Cupressus*.

Ginkgo (Ginkgo-tree, Maidenhair tree).—*Ord.* Coniferæ. Hardy deciduous coniferous tree. Orn. foliage. *Nat.* Northern China. *Int.* 1754. *Ht.* 60 to 80 ft. *Species* cultivated, 1; varieties, 3. *Flowers*, male & female borne on separate trees; spring. *Fruit*, small, globular; edible. *Leaves*, fan-shaped; green & variegated. *Soil*, ordinary well drained. *Position*, sheltered shrubberies or lawns S. of England, against south or west walls other parts. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in pans of light sandy soil in cold frame, Oct. or Mar.

Ginseng (*Panax elegans*)—see *Panax*.

Glacier Pink (*Dianthus glacialis*)—see *Dianthus*.

Gladiolus (Corn Flag, Sword Lily).—*Ord.* Iridacææ. Hardy bulbous flowering plants. Deciduous. *Nat.* S. Europe, Turkey, S. Africa. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 22; hybrids & varieties numerous. *Flowers*, various; June to Nov. *Outdoor culture*: *Soil*, deep rich, liberally manured. *Plant* on, sunny, sheltered, well drained beds or borders. *Plant* early-flowering kinds Nov., Feb. or Mar., late kinds Mar., Ap. or May. *Place* corms of early kinds 4 in. deep & 6 in. apart in groups of three, six, or twelve; late kinds 3 in. deep & 12 in. apart in similar sized groups; put a little silver sand under each corm. *Protect* early kinds in winter with layer of manure. *Apply* liquid manure when flower buds form. *Fix* sticks to spikes when 2 or 3 in. high. *Lift* corms of early kinds in Sept., late kinds in Oct. or Nov., & store in cool place till planting time. *Pot culture*: *Compost*, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame, cool greenhouse or window. *Pot* early kinds Oct. to Mar., placing five corms 1 in. deep in a 6-in. pot; late kinds Mar. or Ap., one 1 in. deep in a 6-in. pot, or three 1 in. deep in an 8-in. pot. *Place* pots in cold frame till flower spikes show, then remove to greenhouse or window. *Water* moderately at first, freely afterwards. *Apply* liquid manure when flower spikes show. *After flowering*, gradually withhold water till foliage dies, then keep quite dry till repotted. *Forcing*: *Pot* early kinds Oct. to Dec. *Temp.*, 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light rich soil in Feb., in temp. 55° to 65°; by bulbils (spawn) growing at base of corms, planted 2 in. deep & 6 in. apart in sunny border outdoors, Mar. Seedlings flower when three years old, bulbils when two years old.

Gladwyn (*Iris fetidissima*)—see *Iris*.

Glandular St. John's-wort (*Hypericum glandulosum*)—see *Hypericum*.

Glastonbury Thorn (*Crataegus oxyantha præcox*)—see *Crataegus*.

Glaucium (Horn Poppy, Sea Poppy).—*Ord.* Papaveracææ. Hardy biennial herbs. *Nat.* Britain. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, yellow, crimson, purple; May to Sept. *Soil*, ordinary rich. *Position*, sunny well drained beds or borders. *Propagate* by seeds sown $\frac{2}{3}$ in. deep in beds of light soil outdoors in May, transplanting seedlings into flowering position in July or Aug.

Glaucous Adam's-needle (*Yucca gloriosa glaucescens*)—see *Yucca*.

Glaucous-leaved Himalayan Maple (*Acer glaucum*)—see *Acer*.

Glaucous-leaved St. John's-wort (*Hypericum glaucum*)—see *Hypericum*.

Glaucous Stonecrop (*Sedum glaucum*)—see *Sedum*.

Glechoma (Ground Ivy).—*Ord.* Labiatae. Hardy trailing perennial. Orn. foliage. *Nat.* Britain. *Species* cultivated, 1; variety, 1. *Flowers*, blue; *Ap.* *Leaves*, kidney-shaped, variegated. *Soil*, ordinary. *Position*, sunny rockeries or margins of borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of plants Oct. or Mar.

Gerardia (False Foxglove).—*Ord.* Scrophulariaceae. Hardy annuals & herbaceous perennials. *Nat.* United States. *Int.* 1772. *Ht.* 1 to 5 ft. *Species* cultivated, 2 perennials, 1 annual. *Flowers*, purple, yellow; June to Sept. *Soil*, ordinary. *Position*, well drained sunny borders. *Plant* perennials Oct. or Mar. *Cut* down flowering stems Oct. *Propagate* annuals by seeds sown $\frac{1}{4}$ in. deep in Ap. outdoors where plants are to flower; perennials by seeds sown $\frac{1}{4}$ in. deep in sunny place outdoors in Ap.; cuttings inserted in sandy peat under handlight outdoors, Aug. or Sept.; division of roots in Mar.

Gleditschia (Chinese Honey Locust, Three-thorned Acacia).—*Ord.* Leguminosae. Hardy ornamental deciduous trees. *Nat.* China, United States. *Int.* 1700. *Ht.* 20 to 50 ft. *Species* cultivated, 2; varieties, 2. *Flowers*, green; July. *Leaves*, feather-shaped, green. *Shoots*, spiny. *Soil*, ordinary. *Position*, sheltered borders or shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in light soil outdoors, Mar., transplanting seedlings when two years old.

Gleichenia (Umbrella Fern, Net Fern).—*Ord.* Filices. Orn. evergreen stove & greenhouse ferns. *Nat.* Australia, New Zealand, Java, Japan, China, Madagascar, Bourbon, Mauritius, Straits of Magellan, Trop. America. *Int.* 1823. *Species* cultivated, 13; varieties, several. *Fronds*, feather-shaped. *Stems*, creeping. *Compost*, two parts fibrous peat, one part fibrous loam, charcoal & sand. *Position*, well drained pans in shady stove or greenhouse. *Pot*, Feb. or Mar. *Water* moderately in winter, freely other times. *Syringing* unnecessary. *Temp.*, stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on surface of sandy peat in well drained pots under bell-glass at any time of year; division of creeping stems with roots attached, Feb. or Mar.

Globe Amaranth (*Gomphrena globosa*)—see *Gomphrena*.

Globe-flowered Fuchsia (*Fuchsia globosa*)—see *Fuchsia*.

Globe Flower (*Trollius europæus*)—see *Trollius*.

Globe Thistle (*Echinops ritro*)—see *Echinops*.

Globularia (Globe Daisy).—*Ord.* Selaginaceae. Hardy perennial herbs. *Nat.* Europe, Asia Minor. *Int.* 1629. *Ht.* 3 in. to 2 ft. *Species* cultivated, 5. *Flowers*, blue, white; June to Sept. *Soil*, ordinary moist. *Position*, sunny rockeries or margins of borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown on surface in boxes of light sandy soil in cold frame in Mar. or Ap.; division of plants, Oct. or Ap.

Gloriosa (Malabar Glory Lily, Mozambique Lily).—*Ord.* Liliaceae. Stove flowering climbers. Deciduous & tuberous-rooted. *Nat.* Trop. Asia & Africa. *Int.* 1690. *Ht.* 4 to 10 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, orange, red, yellow; June to Sept. *Compost*, equal parts loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots, with shoots trained to roof or trellis. *Pot*, Feb., placing tubers 2 in. deep, one in a 6-in. pot, or several in an 8 or 12-in. pot. *Water* moderately till growth is well advanced, then freely. *After flowering*, gradually withhold water & keep soil quite dry till potting time. *Temp.*, Feb. to Sept. 70° to 85°; Sept. to Feb. 55° to 65°. *Propagate* by seeds inserted singly $\frac{1}{4}$ in. deep in 3-in. pots filled with light soil in temp. 75° in Feb. or Mar.; offsets removed from large tubers at potting time.

Glory Bush (*Pleroma sarmentosa*)—see *Pleroma*.

Glory Flower (*Eccremocarpus scaber*)—see *Eccremocarpus*.

Glory Lily (*Gloriosa superba*)—see *Gloriosa*.

Glory-of-the-Snow (*Chionodoxa luciliae*)—see *Chionodoxa*.

Glory Pea (*Clianthus puniceus*)—see *Clianthus*.

Glory Pea of New Zealand (*Clianthus Dampieri*)—see *Clianthus*.

Glory Tree (*Clerodendron fragrans*)—see *Clerodendron*.

Glossy-flowered St. John's-wort (*Hypericum Hookerianum*)—see *Hypericum*.

Glossy-leaved Button-flower (*Gomphia nitida*)—see *Gomphia*.

Glowing Cone-flower (*Rudbeckia fulgida*)—see *Rudbeckia*.

Gloxinia.—*Ord.* Gesneriaceæ. Stove tuberous rooted flowering plants. Deciduous. *Nat.* Trop. America, India. *Int.* 1739. *Ht.* 6 to 12 in. *Species* cultivated, 6; hybrids & varieties numerous. *Flowers*, various; May to Sept. *Compost*, equal parts fibrous peat, fibrous loam, leaf-mould, well decayed manure, & a little silver sand. *Position*, well drained pots close to glass in plant stove while growing; greenhouse or conservatory when in flower. *Pot*, Jan., Feb. or Mar. *Place* tubers singly, & just below surface, in 3 or 4-in. pots, shifting into 5 or 6-in. pots when tubers have started growth. *Water* moderately till growth is well advanced, then freely. *Apply* weak liquid manure when flowers show. *After flowering*, gradually withhold water till foliage dies down, then keep quite dry till potting time. *Temp.*, Jan. to Oct. 65° to 75°; Oct. to Jan. 50° to 55°. *Propagate* by seeds sown on surface of fine sandy peat & leaf-mould, in well drained pots or pans in temp. 65° to 75° in Mar.; cuttings of shoots 1 to 2 in. long inserted in small pots of sandy peat under bell-glass in temp. of 65° to 75°; young leaves with stalk inserted in small pots of sandy soil treated as cuttings; matured leaves with mid-ribs cut & laid on surface of sandy peat in temp. 55° to 75°.

Glycyrrhiza (Liquorice-plant).—*Ord.* Leguminosæ. Hardy herbaceous perennials. Orn. foliage & flowering. Edible rooted. *Nat.* Europe. *Int.* 1562. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, blue; May to Sept. *Leaves*, feather-shaped. *Soil*, deep rich sandy. *Position*, open sunny. *Plant*, Feb. or Mar., 18 in. apart & 3 in. deep in rows 3 ft. asunder. *Cut* down foliage & remove creeping stems close to root in Nov. *Roots* ready for use third year after planting. *Propagate* by division of creeping stems, Feb. or Mar.

Gnaphalium (Cudweed, Everlasting).—*Ord.* Compositæ. Hardy & half-hardy perennials. Flowering & orn. foliage. *Nat.* N. America, S. Africa. *Int.*, date unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, white; June to Sept. *Leaves*, downy. *Culture of Hardy species*: *Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Oct. to Ap. *Culture of Half-hardy species*: *Soil*, ordinary. *Position*, edgings to beds or borders. *Plant*, June. *Lift* & place in pots in Oct. *Store* in temp. 45° to 55° in winter. *Water* moderately. *Propagate* hardy species by division of roots in Oct. or Mar.; half-hardy species by cuttings inserted in sandy soil in cold frame, protected from frost, in Sept., or in pots of sandy soil in temp. 50° to 60° in spring.

Gnidia.—*Ord.* Thymelacææ. Greenhouse evergreen flowering shrubs. *Nat.* Cape of Good Hope. *Int.* 1768. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, white, yellow; Mar. to May. *Compost*, two parts fibrous peat, one part loam & silver sand. *Position*, well drained pots near glass in airy greenhouse during autn., winter & spring, cold frame June to Sept. *Pot*, Mar. *Press* compost firmly in pots. *Prune* straggling shoots into shape directly after flowering. *Water* carefully always, giving sufficient to keep soil uniformly moist; rain, not spring water, essential. *Temp.*, Oct. to Mar. 40° to 45°; Mar. to July, 45° to 55°. *Propagate* by cuttings of young shoots 2 in. long inserted in sandy peat in well drained pots under bell-glass in temp. 45° to 55° in Mar., Ap. or May.

Goa Cedar (*Cupressus lusitanica*)—see Cupressus.

Goat's Beard (*Spiraea aruncus*)—see Spiræa.

Goat's Foot (*Oxalis caprina*)—see Oxalis.

Goat's Rue (*Galega officinalis*)—see Galega.

Goat's Thorn (*Astragalus tragacantha*)—see Astragalus.

Goat Willow (*Salix caprea*)—see Salix.

Godetia.—Ord. Onagraceæ. Hardy annuals. Nat. N W. America, Mexico, Chili. Int. 1826. Ht. 1 to 2 ft. Species cultivated, about 3; varieties many. Flowers, white, crimson, rose; June to Oct. Outdoor culture: Soil, ordinary. Position, sunny beds or borders. Propagate by seeds sown $\frac{1}{4}$ in. deep in patches or masses in Ap. where plants are to flower, or in boxes of light soil in temp. 55° to 65° in Ap., transplanting seedlings outdoors in May. Thin seedlings sown outdoors 4 to 6 in. apart in June. Pot culture: Compost, two parts good soil, one part leaf-mould, well decayed manure & sand. Position, well drained 6-in. pots in cold frame, greenhouse or window. Sow seeds thinly in Ap. on surface of soil & lightly cover with fine mould. Thin seedlings when 1 in. high to six or eight in each pot. Water moderately at first, freely when in full growth. Apply liquid manure twice a week when plants show flower.

God's Eye (*Veronica chamædrye*)—see Veronica.

Goldfussia.—Ord. Acanthaceæ. Stove evergreen flowering plants. Nat. Silhet. Int. 1823. Ht. 1 to 3 ft. Species cultivated, 1. Flowers, blue; Oct. to Mar. Compost, equal parts loam & leaf-mould, with a little silver sand. Pot, Mar. or Ap. Position, well drained pots in moist part of stove Mar. to June; sunny cold frame June to Sept.; light stove Sept. to Mar. Prune shoots in closely, Feb. Water moderately Sept. to Ap., freely other times. Apply liquid manure twice a week to plants in flower. Propagate by cuttings of moderately firm shoots 2 to 3 in. long inserted in light sandy compost under bell-glass in temp. 75°, Feb, Mar. or Ap.

Gold Basket (*Alyssum saxatile*)—see Alyssum.

Gold-blotched Ivy (*Hedera Helix aureo-maculata*)—see Hedera.

Gold-blotched Privet (*Ligustrum japonicum variegatum*)—see Ligustrum.

Gold Cup (*Ranunculus bulbosus*)—see Ranunculus.

Gold Dust-plant (*Alyssum saxatile* & *Sedum acre*)—see Alyssum & Sedum.

Gold-edged Box-tree (*Buxus sempervirens aurea*)—see Buxus.

Gold-edged Tree Ivy (*Hedera Helix arborea aureo-marginata*)—see Hedera.

Gold Fern (*Gymnogramma chrysophylla*)—see Gymnogramma.

Gold Leaf-plant (*Aucuba japonica*)—see Aucuba.

Gold-and-Purple Toad Flax (*Linaria reticulata aurca-purpurea*)—see Linaria.

Gold-netted Honeysuckle (*Lonicera brachypoda aurco-reticulata*)—see Lonicera.

Gold-striped Holly (*Ilex aquifolium aureo-variegatum*)—see Ilex.

Gold-striped Lily (*Lilium auratum*)—see Lilium.

Golden Amaranth (*Amaranthus salicifolius*)—see Amaranthus.

Golden Arbor-vitæ (*Thuia aurea*)—see Thuia.

Golden Avena (*Geum aureum*)—see Geum.

Golden Ball-tree (*Forsythia suspensa*)—see Forsythia.

Golden Barberry (*Berberis stenophylla*)—see Berberis.

Golden-barked Ash (*Fraxinus excelsior aurea*)—see Fraxinus.

Golden Cassidony (*Helichrysum stachas*)—see Helichrysum.

Golden Chain (*Laburnum vulgare*)—see Laburnum.

Golden Chickweed (*Stellaria graminea aureo-variegata*)—see *Stellaria*.

Golden Chinese Arbor-vitæ (*Biota orientalis aurea*)—see *Biota*.

Golden Daffodil (*Narcissus maximus*)—see *Narcissus*.

Golden Dead Nettle (*Lamium aureum*)—see *Lamium*.

Golden Dreg (*Onosma tauricum*)—see *Onosma*.

Golden Elm (*Ulmus Dampieri aurea*)—see *Ulmus*.

Golden Feather (*Pyrethrum aureum*)—see *Pyrethrum*.

Golden Fig-Marigold (*Mesembryanthemum aureum*)—see *Mesembryanthemum*.

Golden Flower of Peru (*Helianthus annuus*)—see *Helianthus*.

Golden Germander (*Teucrium aureum*)—see *Teucrium*.

Golden Hair (*Chrysocoma coma-aurea*)—see *Chrysocoma*.

Golden Locks (*Polypodium vulgare*)—see *Polypodium*.

Golden Hawk's-beard (*Crepis aurea*)—see *Crepis*.

Golden Lily (*Amaryllis aurea*)—see *Amaryllis*.

Golden Moss (*Sedum acre*)—see *Sedum*.

Golden Mouse-ear (*Hieracium aurantiacum*)—see *Hieracium*.

Golden Oak (*Quercus pedunculata concordia*)—see *Quercus*.

Golden Oak of Cyprus (*Quercus alnifolia*)—see *Quercus*.

Golden Osier (*Salix vitellina* & *Myrica Gale*)—see *Salix* & *Myrica*.

Golden Pine-tree (*Pinus Kämpferi*)—see *Pinus*.

Golden Plume-like Japan Cypress (*Retinospora plumosa aurea*)—see *Retinospora*.

Golden Polypody (*Phlebodium aureum*)—see *Phlebodium*.

Golden Poppy (*Papaver croceum*)—see *Papaver*.

Golden Rod (*Solidago virgaurea*)—see *Solidago*.

Golden Saxifrage (*Chrysopenium alternifolium*)—see *Chrysopenium*.

Golden Stæchas (*Helichrysum stæchas plenum*)—see *Helichrysum*.

Golden Thistle (*Scolymus hispanica*)—see *Scolymus*.

Golden Urn-flower (*Urceolina aurea*)—see *Urceolina*.

Golden-edged Cock's-foot Grass (*Dactylis glomerata aurea*)—see *Dactylis*.

Golden-flowered Currant (*Ribes aureum*)—see *Ribes*.

Golden-flowered Garlic (*Allium moly*)—see *Allium*.

Golden-flowered Star-of-Bethlehem (*Ornithogalum aureum*)—see *Ornithogalum*.

Golden-flowered Yarrow (*Achillea aurea*)—see *Achillea*.

Golden-leaved Chestnut (*Castanea chrysophylla*)—see *Castanea*.

Golden-leaved Spindle-tree (*Euonymus japonicus aureo-variegatus*)—see *Euonymus*.

Golden Pert (*Gratiola aurea*)—see *Gratiola*.

Golden Rain (*Laburnum vulgare*)—see *Laburnum*.

Golden Tuft (*Alyssum saxatile* & *Helichrysum stæchas*)—see *Alyssum* & *Helichrysum*.

Golden-twiggèd Lime-tree (*Tilia europæa aurea*)—see *Tilia*.

Golden-variegated Chinese Juniper (*Juniperus chinensis aurea*)—see *Juniperus*.

Golden-variegated Elm (*Ulmus campestris foliis aureis*)—see *Ulmus*.

Golden-variegated Japan Cypress (*Retinospora obtusa aurea*)—see *Retinospora*.

Golden-variegated Japan Juniper (*Juniperus japonica aurea*)—see Juniperus.

Golden Wand (*Chrysobactron Hookeri*)—see Chrysobactron.

Goldilocks (*Chrysocoma coma-aurea* & *Helichrysum stæchas*)—see Chrysocoma & Helichrysum.

Golds (*Calendula officinalis*, *Caltha palustris*, & *Chrysanthemum segetum*)—see Calendula, Caltha, & Chrysanthemum.

Gomphia (South American Button-flower)—*Ord.* Ochnaceæ. Stove evergreen shrubs. *Orn.* foliage & flowering. *Nat.* S. America. *Int.* 1868. *Ht.* 5 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow; Ap. to July. *Compost*, two parts fibrous loam, one part peat, little silver sand. *Position*, pots in light part of plant stove. *Pot.*, Feb. or Mar. *Press* compost down firmly in pot. *Prune* into shape Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 50° to 60°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in pots of silver sand under bell-glass in temp. 75° in spring.

Gompholobium.—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. Trailing & erect. *Nat.* Australia. *Int.* 1803. *Ht.* 3 to 18 in. *Species* cultivated, 4; variety 1. *Flowers*, yellow, scarlet, pink, purple; Mar. to Sept. *Compost*, two parts rough peat, one part rough loam, charcoal & sand. *Position*, well drained pots in light part of greenhouse. *Pot.*, Feb. or Mar. *Prune* into shape after flowering. *Water* carefully all times. *Temp.*, Sept. to Ap. 45° to 50°; Ap. to Sept. 50° to 60°. *Ventilate* greenhouse freely in sum. *Propagate* by cuttings of young shoots 2 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 45° to 55° in Mar. or Ap.

Gomphrena (Globe Amaranth, Red Globe Everlasting).—*Ord.* Amaranthaceæ. Greenhouse flowering annual. *Nat.* India. *Int.* 1714. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, various; June to Sept. *Compost*, two parts fibrous loam, one part leaf-mould, well decayed cow manure & sand. *Position*, warm greenhouse, exposed to light. *Sow* seeds $\frac{1}{2}$ in. deep in well drained pots of light soil in temp. 75° in Mar. *Transplant* seedlings 1 in. apart when 1 in. high in light soil in well drained pots & keep in temp. of 80° to 75°. *When* seedlings have formed four leaves place singly in 4-in. pots. *Transfer* them in June to 5-in. pots & keep plants near the glass. *Water* moderately. *Syringe* foliage twice daily. *Apply* liquid manure when flowers appear. *Summer* temp., 55° to 65°. *Cut* flowers immediately they are fully developed for drying for winter decoration.

Gongora.—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchids. *Nat.* Trop. America. *Int.* 1824. *Ht.* 12 to 18 in. *Species* cultivated, 5. *Flowers*, purple, yellow, white, red, violet, brown; Mar. to Aug. *Compost*, equal parts rough peat, sphagnum moss & lumps of charcoal. *Position*, hanging baskets in sunny part of stove. *Re-basket*, Feb. or Mar. *Water* abundantly Mar. to Sept., very little other times. *Growing period*, Mar. to Aug. *Resting period*, Aug. to Mar. *Propagate* by division of pseudo-bulbs in Feb.

Goniophlebium.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Mexico, Java, W. Indies, Malacca, Malay Archipelago. *Int.* 1837. *Ht.* 9 to 24 in. *Species* cultivated, about 6. *Ferns* feather-shaped. *Compost*, two parts rough fibrous peat, one part loam, leaf-mould & sand. *Position*, drooping species in baskets; erect kinds in pots, well drained, in shady part of stove. *Pot.*, Feb. or Mar. *Water* moderately in winter, freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; by division of plants at potting time.

Goniopteris.—*Ord.* Filices. Stove evergreen ferns. *Nat.* New Caledonia, Jamaica, W. Indies, Brazil. *Int.*, date unknown. *Ht.* 6 to 18 in.

Species cultivated, 4. *Fronds* feather-shaped. *Compost*, equal parts loam & peat, little sand. *Position*, pots, well drained, in shady stove. *Pot*, Feb. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to Sept. 65° to 75°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. of 75° to 85° any time; by division of plants at potting time.

Good King Henry (*Chenopodium Bonus-Henricus*)—see *Chenopodium*.

Good-night-at-noon (*Hibiscus trionum*)—see *Hibiscus*.

Goodyera (Rattlesnake Plantain, Adder's Violet, Scrofula Leaf, Scrofula Weed, Creeping Rattlesnake).—*Ord.* Orchidaceæ. Stove, greenhouse, & hardy terrestrial orchids. Flowering & orn. foliage. *Nat.* Britain, S. & N. America, Japan. *Int.* (foreign species) 1802. *Ht.* 3 to 6 in. *Species* cultivated, 7. *Flowers*, white, yellow, rose, red; Sept. to June. *Leaves*, bronze, chocolate, olive-green, purplish-green, reddish-crimson, variegated with white or yellow. *Culture of stove & greenhouse species*: *Compost*, two parts fibrous peat, one part loam & sand. *Position*, well drained pots or shallow pans in shady part of stove or greenhouse. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, stove species, 65° to 75° Mar. to Sept., Sept. to Mar. 55° to 65°; greenhouse species, Mar. to Sept. 55° to 65°, 45° to 55° Sept. to Mar. *Culture of hardy species*: *Compost*, two parts peat, leaf-mould & sand. *Position*, rockery or border, well drained. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Propagate* by cuttings of shoots removed with roots attached, inserted singly in small pots of peaty compost under bell-glass in temp. 45° to 55° in spring.

Gooseberry (*Ribes grossularia*)—see *Ribes*.

Gooseberry Gourd (*Cucurbita grossularioides*)—see *Cucurbita*.

Goose-tongue (*Achillea ptarmica*)—see *Achillea*.

Gordonia (Loblolly Bay).—*Ord.* Ternströmiaceæ. Greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* Trop. Asia, Java, N. America. *Int.* 1739. *Ht.* 3 to 10 ft. *Species* cultivated, 2 greenhouse, 2 hardy. *Flowers*, white, fragrant; July to Nov. *Culture of greenhouse species*: *Compost*, equal parts peat, leaf-mould, loam, with little sand. *Position*, well drained pots in light, airy greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Culture of hardy species*: *Compost*, equal parts peat, leaf-mould & sand. *Position*, sheltered shrubberies S. of England, against south walls other parts. *Plant*, Oct. to Feb. *Prune*, Jan. *Protect* in severe weather. *Hardy species* deciduous. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans or shallow boxes of peaty soil in cold frame in Mar. or Ap.; by layering shoots in Oct.

Gordon's Mock-Orange (*Philadelphus Gordonianus*)—see *Philadelphus*.

Gorgon Plant (*Euryale ferox*)—see *Euryale*.

Gorse (*Ulex europæus*)—see *Ulex*.

Gossypium (Cotton-plant, Barbadoes Cotton-plant, Herbaceous Cotton-plant).—*Ord.* Malvacæ. Stove perennial herbs. *Nat.* Barbadoes, E. Indies. *Int.* 1594. *Ht.* 2 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow, purple; July to Sept. *Fruit* (capsule) furnishes cotton of commerce. *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, well drained pots in sunny part of stove. *Pot*, Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 65° to 75°; Mar. or Ap. *Transplant* seedlings when 1 in. high singly into 2-in. pots, & thence into 5 or 6-in. pots. *Both species* best treated as annuals.

Gourd (*Cucurbita melopepo*)—see *Cucurbita*.

Gowan (*Chrysanthemum segetum*)—see *Chrysanthemum*.

Grammanthes.—*Ord.* Crassulaceæ. Half-hardy annual. *Nat.* S. Africa. *Int.* 1774. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, orange, yellow, red; June to Aug. *Soil*, light sandy. *Position*, sunny rockeries. *Propagate* by seeds sown on surface of sandy soil in well drained pans in temp. 60° to 65° in Mar. *Transplant* seedlings outdoors in May.

Grammatophyllum (Letter-leaf, Letter-plant, Queen of the Orchids.)—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Manilla, Java, Madagascar. *Int.* 1837. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow purple, green, brown; Aug. to Feb. *Compost*, fibrous peat & charcoal. *Position*, large well drained pots in light part of stove. *Pot*, Feb. or Mar. *Water* freely Feb. to Oct., very little Oct. to Feb. *Temp.*, Feb. to Nov. 65° to 75°; Nov. to Feb. 60° to 65°. *Growing period*, Feb. to Nov. *Resting period*, Nov. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Granadilla Vine (*Passiflora quadrangularis* & *P. edulis*)—see *Passiflora*.

Grape Fern (*Botrychium lunaria*)—see *Botrychium*.

Grape Pear (*Amelanchier botryapium*)—see *Amelanchier*.

Grape Vine (*Vitis vinifera*)—see *Vitis*.

Grapewort (*Actæa spicata*)—see *Actæa*.

Graptophyllum (Caricature-plant).—*Ord.* Acanthaceæ. Stove ever-green shrubs. *Orn. foliage.* *Nat.* Tropics. *Int.* 1780. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties several. *Flowers*, crimson; July to Aug. *Leaves*, variegated. *Compost*, equal parts peat, loam, & a little sand. *Position*, well drained pots in moist plant stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Feb. to Oct. 65° to 80°; Oct. to Feb. 55° to 65°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, removed with slice of stem attached to base, inserted in sand in well drained pots under bell-glass in temp. 65° to 75° in Mar., Ap. or May.

Grass-leaved Adam's Needle (*Yucca graminifolia*)—see *Yucca*.

Grass-leaved Day Lily (*Hemerocallis graminea*)—see *Hemerocallis*.

Grass-leaved Iris (*Iris graminea*)—see *Iris*.

Gratiola (Poor-man's-herb, Golden Pert, Hedge Hyssop. — *Ord.* Scrophulariaceæ. Hardy herbaceous perennials. *Nat.* Europ., N. America. *Int.* 1568. *Ht.* 4 to 12 in. *Species* cultivated, 2. *Flowers*, white, purple; May to June. *Soil*, ordinary rich. *Position*, sunny moist borders. *Plant*, Oct. to Ap. *Propagate* by division of plants in Mar. or Ap.

Gray Ash (*Fraxinus americana cinerea*)—see *Fraxinus*.

Gray Box-tree of Victoria (*Eucalyptus dealbata*)—see *Eucalyptus*.

Gray Oak (*Quercus coccinea ambigua*)—see *Quercus*.

Grayish Bamboo (*Bambusa viridi-glaucescens*)—see *Bambusa*.

Great American Chick-weed (*Stellaria pubera*)—see *Stellaria*.

Great American Cowslip (*Dodecatheon Jeffreyanum*)—see *Dodecatheon*.

Great Angelica (*Angelica atropurpurea*)—see *Angelica*.

Great Bell-flower (*Campanula grandis*)—see *Campanula*.

Great Bulbous Iris (*Iris xiphioides*)—see *Iris*.

Great Californian Silver Fir (*Picea grandis*)—see *Picea*.

Great Christmas Rose (*Helleborus niger maximus*)—see *Helleborus*.

Great Fringed Orchis (*Habenaria fimbriata*)—see *Habenaria*.

Great Laurel-leaved Magnolia (*Magnolia grandiflora*)—see *Magnolia*.

Great Ox-eye (*Pyrethrum uliginosum*)—see *Pyrethrum*.

Great Pendulous Sedge (*Carex pendula*)—see *Carex*.

Great Rattan Cane (*Calamus rudentum*)—see *Calamus*.

- Great Reed (*Arundo donax*)—see Arundo.
 Great Savoy Spider-wort (*Anthericum liliastrum*)—see Anthericum.
 Great Scarlet Poppy (*Papaver bracteatum*)—see Papaver.
 Great Sea Lavender (*Statice latifolia*)—see Statice.
 Great Spotted Iris (*Iris susiana*)—see Iris.
 Great Water-cress (*Nasturtium amphibium*)—see Nasturtium.
 Great Yellow Foxglove (*Digitalis ambigua*)—see Digitalis.
 Great-leaved Cineraria (*Cineraria macrophylla*)—see Cineraria.
 Greater Wych Elm (*Ulmus montana major*)—see Ulmus.
 Greek Valerian (*Polemonium cœruleum*)—see Polemonium.
 Green Alder (*Alnus viridis*)—see Alnus.
 Green Ash (*Fraxinus viridis*)—see Fraxinus.
 Green Briar (*Smilax rotundifolia*)—see Smilax.
 Green Dragons (*Arum dracontium*)—see Arum.
 Green Ebony-tree (*Bignonia leucoxydon* & *Jacaranda ovalifolia*)—see Bignonia & Jacaranda.
 Green Hellebore (*Helleborus viridis*)—see Helleborus.
 Green Man Orchis (*Aceras anthropophora*)—see Aceraa.
 Green Spleen-wort (*Asplenium viride*)—see Asplenium.
 Green Weed (*Genista tinctora*)—see Genista.
 Green Windsor Bean (*Faba vulgaris chlorosperma*)—see Faba.
 Green-flowered Christmas Rose (*Helleborus abchasicus*)—see Helleborus.

Green-flowered Daffodil (*Narcissus viridiflorus*)—see Narcissus.
 Green-winged Orchis (*Orchis morio*)—see Orchis.
 Greenish-flowered Snowdrop (*Galanthus virens*)—see Galanthus.

Greig's Tulip (*Tulipa Greigi*)—see Tulipa.

Grevillea (Silk-bark Oak).—Ord. Proteaceæ. Greenhouse hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* New Caledonia. *Int.* 1790. *Ht.* 3 to 6 ft. *Species* cultivated, 6 greenhouse, 2 hardy. *Flowers*, yellow, red, crimson, orange; Feb. to Sept. *Culture of greenhouse species*: *Compost*, equal parts fibrous peat & turfy loam, one part silver sand. *Position*, well drained pots in airy greenhouse, window, or dwelling-room. *Pot*, Mar. or Ap. *Water* moderately Sept. to Ap., freely afterwards. *Prune* off points of shoots occasionally to induce bushy growth. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Culture of hardy species*: *Soil*, peaty. *Position*, sheltered shrubberies S. of England; against south walls other parts. *Plant*, Oct. or Ap. *Prune*, Ap. *Protect* in severe weather. *Propagate* greenhouse species by seeds sown $\frac{1}{4}$ in. deep in well drained pots of light soil in temp. 65° to 70° in Mar.; cuttings of young shoots 3 in. long, with small portions of branches attached, inserted in sandy soil in well drained pots under bell-glass in temp. 75° to 80° in Mar., Ap. or May; hardy species by seeds sown $\frac{1}{4}$ in. deep outdoors in Mar. or Ap.; layers in Oct. or Nov.; grafting in Mar. or Ap.

Grey Pine-tree (*Pinus Banksiana*)—see Pinus.

Grey Poplar (*Populus alba canescens*)—see Populus.

Grey Tree Fern (*Cyathea medullaris*)—see Cyathea.

Griffinia (Blue Amaryllis).—Ord. Amaryllidaceæ. Stove bulbous flowering plants. Evergreen. *Nat.* Brazil. *Int.* 1815. *Ht.* 6 to 12 in. *Species* cultivated, 3; varieties, 2. *Flowers*, white, carmine, lilac, blue; Oct. to Mar. *Compost*, two parts fibrous loam, one part peat, decomposed sheep manure & sand. *Position*, well drained pots on a bed or stage heated beneath to temp. 85° in plant stove. *Pot*, June or July. *Press* compost down firmly. *Repotting* not needful oftener than once every three or four years. *Water*

moderately Oct. to Ap., freely afterwards. *Syringe* freely in sum. *Topdressed* established plants annually in Mar. with rich compost. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Dec. 55° to 65°; Dec. to Mar. 65° to 75°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 85° in Feb. or Mar.; offsets removed from old bulbs and placed singly in 3-in. pots at potting time.

Grim-the-Collier (*Hieracium aurantiacum*)—see *Hieracium*.

Griselinia (New Zealand Broad-leaf).—*Ord.* Cornaceæ. Hardy evergreen shrubs. *Orn. foliage.* *Nat.* New Zealand. *Int.* 1872. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Leaves*, egg-shaped; dark green. *Soil*, rich loam. *Position*, shady, sheltered borders. *Plant*, Oct., Nov., Mar. or Ap. *Prune* into shape, Ap. *Propagate* by cuttings inserted in sandy soil in sheltered border or cold frame Sept., Oct. or Nov.; layering shoots in Oct. or Nov.

Gromwell Reed (*Coix lachryma*)—see *Coix*.

Ground Honeysuckle (*Lotus corniculatus*)—see *Lotus*.

Ground Ivy (*Glechoma hederacea*)—see *Glechoma*.

Ground Lily (*Trillium latifolium*)—see *Trillium*.

Ground Squirrel Pea (*Jeffersonia diphylla*)—see *Jeffersonia*.

Guelder Rose (*Viburnum opulus*)—see *Viburnum*.

Guernsey Lily (*Nerine sarniensis*)—see *Nerine*.

Guernsey Orchis (*Orchis laxiflora*)—see *Orchis*.

Guilielma (Peach Palm).—*Ord.* Palmaceæ. Stove palm. *Orn. foliage.* *Nat.* Amazon. *Int.*, date unknown. *Ht.* 20 to 50 ft. *Species* cultivated, 1. *Leaves*, feather-shaped. *Compost*, equal parts loam, leaf-mould & sand. *Position*, shady & moist in sum. *Pot*, Feb. or Mar. *Water* moderately Sept. to Mar., freely afterwards. *Temp.*, Sept. to Mar. 60° to 75°; Mar. to Sept. 70° to 80°. *Propagate* by removing young plants from base of old ones in Mar. & placing in small pots in temp. 70° to 80°.

Guinea Hen-flower (*Fritillaria meleagris*)—see *Fritillaria*.

Guinea Pepper (*Capsicum annuum*)—see *Capsicum*.

Guinea Wheat (*Zea mays*)—see *Zea*.

Gule (*Chrysanthemum segetum*)—see *Chrysanthemum*.

Gum Box (*Escallonia macrantha*)—see *Escallonia*.

Gum Thistle (*Euphorbia officinarum*)—see *Euphorbia*.

Gunnera.—*Ord.* Haloragaceæ. Hardy herbaceous perennials. *Orn. foliage.* *Nat.* Brazil, Chili. *Int.* 1849. *Ht.* 4 to 6 ft. *Species* cultivated, 2. *Leaves*, large, 4 to 6 ft. in diameter; dark green. *Soil*, ordinary rich. *Position*, damp, sunny sheltered margins of ponds or bogs. *Plant*, Mar. or Ap. *Protect* with leaves in winter. *Water* abundantly in dry weather. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June; division of plants in Mar. or Ap.

Gustavia.—*Ord.* Barringtoniaceæ. Stove evergreen flowering shrubs. *Nat.* New Grenada, Columbia, French Guiana. *Int.* 1845. *Ht.* 3 to 6 ft. *Flowers*, rose, yellow, white; June to Sept. *Compost*, two parts loam, one part peat & leaf-mould, with little sand. *Position*, well drained pots in warmest part of stove. *Pot*, Mar. *Prune*, Feb. or Mar. *Water* moderately Sept. to Feb., freely other times. *Syringe* daily Mar. to Sept. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in sand in well drained pots under bell-glass in temp. 70° to 85°, Ap. to Aug.

Guzmannia.—*Ord.* Bromeliaceæ. Stove herbaceous perennials. Flowering & orn. foliage. *Nat.* Trop. America. *Int.* 1820. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white; May to Sept. *Bracts*, yellow, green, purple, scarlet. *Leaves*, sword-shaped; bright green. *Compost*, equal parts fibrous loam, rough peat & leaf-mould. *Pot*, Mar. *Water* freely always. *Good drainage* essential. *Temp.*, Sept. to Mar. 60° to 70°; Mar. to Sept. 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Gymnadenia (Aromatic Orchis, Sweet-scented Orchis, Gnat Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchid. *Nat.* Britain. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, purple, fragrant; June to July. *Soil*, sandy loam. *Position*, open sunny turf, or borders. *Plant*, Mar., placing tubers 2 to 3 in. deep. *Propagate* by division of tubers in Mar.

Gymnocladus (Kentucky Coffee-tree).—*Ord.* Leguminosæ. Hardy deciduous tree. Orn. foliage & flowering. *Nat.* N. America. *Int.* 1748. *Ht.* 10 to 60 ft. *Species* cultivated, 1. *Flowers*, white; May to July. *Leaves*, feather-shaped, bluish green, 3 ft. long & 2 ft. wide. *Soil*, ordinary, well drained. *Position*, shady shrubberies or lawns. *Plant*, Oct. to Feb. *Prune* young trees, Jan. *Propagate* by seeds sown 1 in. deep in light soil in shady position outdoors in Oct., Nov., Ap. or Mar.; cuttings of roots inserted 2 in. deep in similar position in Oct. or Mar.

Gymnogramma (Gold Fern, Silver Fern, Sulphur Fern, Rue Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Trop. America, W. Indies, Venezuela, Jamaica, California, N. America, India. *Int.* 1790. *Ht.* 4 to 30 in. *Species* cultivated, 13 stove, 5 greenhouse; varieties many. *Fronds* finely divided, upper sides green, under sides covered with white or yellow powder. *Compost*, one part fibrous peat, one part leaf-mould & loam, one part silver sand, charcoal, & coarsely ground bones. *Position*, erect species in well drained pots; drooping species in hanging baskets. *Pot*, Feb. or Mar. *Water* moderately Oct. to Feb., freely afterwards. *Syringing* or shading not necessary. *Temp.*, stove species, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 75°; greenhouse species, Sept. to Mar. 45° to 50°, Mar. to Sept. 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; division of plants at potting time; fronds furnished with plantlets pegged on to surface of sandy peat under bell-glass in temp. 70° to 80° at all times.

Gymnopteris.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Ceylon, Trop. America. *Int.*, date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Fronds* feather-shaped & oak leaf-shaped. *Compost*, equal parts peat, loam, leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely spring & sum., moderately other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 70° to 80° any time; division of roots at potting time.

Gynerium (Pampas Grass).—*Ord.* Graminaceæ. Hardy herbaceous perennial grass. Flowering & orn. foliage. *Nat.* S. America. *Int.* 1843. *Ht.* 6 to 10 ft. *Species* cultivated, 1; varieties, 2. *Inflorescence* (male & female borne on different plants), white, purple, yellow; Sept. to Nov. *Soil*, rich, light, sandy. *Position*, sheltered shrubberies or lawns. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Gather* plumes for winter decoration directly fully developed. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in well drained pots or pans under bell-glass in temp. 55° to 65° in Feb., Mar. or Ap. *Transplant* seedlings outdoors in Aug. or Sept. *Female* plumes best & most durable for winter decoration.

Gypsophila (Chalk-plant).—*Ord.* Caryophyllaceæ. Hardy perennial & annual herbs. *Nat.* Europe, Caucasus, Himalayas. *Int.* 1759. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3 perennials, 2 annuals. *Flowers*, white, rose, pink; May to Sept.; very useful for cutting. *Soil*, ordinary; freely mixed with old mortar or brick rubbish. *Position*, dryish well drained borders for erect species; sunny rockeries & margins of borders for dwarf species. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* annual species by seeds sown in Ap. on surface of soil where plants are to flower, thinning seedlings out 3 to 6 in. apart when 1 in. high; perennial species by seeds sown in sunny position outdoors in Ap., transplanting seedlings to permanent position in June, July or Aug.; division of plants in Oct. or Ap.

Habenaria (Frog Orchis, Butterfly Orchis, Fringed Orchis, Rein Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Britain, N. America. *Int.* (foreign species) 1796. *Ht.* 1 to 3 ft. *Species* cultivated, 10. *Flowers*, white, yellow, lilac, purple, rose, crimson, fragrant; June to Sept. *Compost*, equal parts leaf-mould, peat & sand. *Position*, moist, partially shaded borders. *Plant*, Oct. or Ap. *Mulch* surface of bed in June with leaf-mould, cocoanut-fibre refuse, or short grass. *Water* freely in sum. in dryish positions. *Replanting* necessary only when plants show signs of deterioration. *Propagate* by division of tuberous roots in Ap.

Haberlea.—*Ord.* Gesneraceæ. Hardy herbaceous perennial. *Nat.* Roumelia. *Int.* 1880. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, lilac, yellow; Ap. to June. *Soil*, fibrous sandy peat. *Position*, moist fissures of rockery in shade. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans of sandy peat in cold frame in Mar. or Ap.; by division of plants in Mar. or Ap.

Hablitzia.—*Ord.* Chenopodiaceæ. Hardy herbaceous climber. *Nat.* Caucasus. *Int.* 1828. *Ht.* 8 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish yellow; July to Oct. *Soil*, ordinary. *Position*, base of naked trunks of trees, south or west trellises, arbors, walls, or fences. *Plant*, Oct. or Mar. *Cut* down stems to the ground in Oct. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sunny place outdoors in Mar. or Ap., or similar depth in boxes of light soil in greenhouse or cold frame in Mar., transplanting seedlings outdoors in May or June; by division of roots Oct. or Ap.

Habranthus.—*Ord.* Amaryllidaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* Chili. *Int.* 1821. *Ht.* 12 in. *Species* cultivated, 4; variety, 1. *Flowers*, yellow, red, scarlet; May to July. *Outdoor culture*: *Soil*, light sandy loam. *Position*, well drained sunny beds, borders, or rockeries. *Plant*, Aug. to Nov., placing bulbs 3 to 4 in. deep & 4 in. apart. *Protect* in winter by covering of cinder ashes. *Lift* & replant only when bulbs show signs of deterioration. *Pot culture*: *Compost*, two parts loam, one part peat, leaf-mould & silver sand. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing one bulb 2 in. deep in a 6 or 6-in. pot. *Water* very little till growth begins, then freely. *Withhold* water when flowers fade & keep soil quite dry till potting time. *Propagate* by offsets planted & treated as advised for large bulbs, Aug. to Nov.

Habrothamnus.—*Ord.* Solanaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Mexico. *Int.* 1843. *Ht.* 5 to 10 ft. *Species* cultivated, 3; variety, 1; variegated. *Flowers*, purplish red, crimson; all the year round. *Berries*, bright rosy-red; borne only when flowers are fertilized. *Soil*, ordinary. *Position*, pots or beds, with shoots trained on wall, pillars, or roof of greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Temp.*, Sept. to Mar. 40° to 50°; Mar. to Sept. 55° to 60°. *Water* moderately in winter, freely other times. *Propagate* by cuttings of side shoots 3 or 4 in. long, removed with portion of old stem attached, inserted in well drained pots of sandy soil in temp. 65° to 75° in July, Aug. or Sept.

Hack-berry (*Cerasus padus*)—see *Cerasus*.

Hæmanthus (Blood-flower, Blood Lily, Red Cape Tulip).—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous plants. Deciduous. *Nat.* S. & Trop. Africa. *Int.* 1722. *Ht.* 6 to 12 in. *Species* cultivated, 7 greenhouse, 4 stove. *Flowers*, scarlet, red, white, orange, crimson; Feb. to Dec. *Compost*, two parts sandy loam, one part peat, well decayed manure & sand. *Position*, well drained pots exposed to full sun in stove or greenhouse whilst growing; under staging whilst at rest. *Pot* early-flowering species Aug. to Nov.; late-flowering species, Mar. or Ap. *Place* bulbs half their depth in compost. *Water* very little till growth begins, then moderately; gradually withhold it when flowers fade, & keep soil quite dry from time foliage turns yellow till repotting time. *Apply* weak liquid manure once or twice weekly

to plants in flower. *Temp.*, greenhouse species, Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65°; Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 76° for stove species. *Bulbs* flower best when only repotted every three or four years. *Propagate* by offsets removed at potting time & placed in small pots in similar soil as for old bulbs.

Hag-berry (*Cerasus padus*)—see *Cerasus*.

Hag-taper (*Verbascum Thapsus*)—see *Verbascum*.

Hair-bell (*Campanula rotundifolia* & *Scilla nutans*)—see *Campanula* & *Scilla*.

Hair-tipped House-leek (*Sempervivum heterotrichum*)—see *Sempervivum*.

Hair's-tail Grass (*Lagurus ovatus*)—see *Lagurus*.

Hairy Broom (*Genista pilosa*)—see *Genista*.

Hairy Cone-flower (*Rudbeckia hirta*)—see *Rudbeckia*.

Hairy Dwarf Birch (*Betula pumila*)—see *Betula*.

Hairy Honeysuckle (*Lonicera hirsuta*)—see *Lonicera*.

Hairy House-leek (*Sempervivum hirtum*)—see *Sempervivum*.

Hairy-lip Fern (*Cheilanthes vestita*)—see *Cheilanthes*.

Hairy Nightshade (*Solanum hirsutum*)—see *Solanum*.

Hairy Phlox (*Phlox pilosa*)—see *Phlox*.

Hairy Pitcher-plant (*Nepenthes villosa*)—see *Nepenthes*.

Hairy Privet (*Ligustrum villosum*)—see *Ligustrum*.

Hairy Rock Rose (*Cistus hirsutus*)—see *Cistus*.

Hairy St. John's-wort (*Hypericum hirsutum*)—see *Hypericum*.

Hairy Saxifrage (*Saxifraga hirsuta*)—see *Saxifraga*.

Hairy Sedum (*Sedum villosum*)—see *Sedum*.

Hairy Sun Rose (*Helianthemum hirsutum*)—see *Helianthemum*.

Hairy Toad-flax (*Linaria pilosa*)—see *Linaria*.

Hairy-flowered Sun Rose (*Helianthemum lasianthum*)—see *Helianthemum*.

Hairy-leaved Mock-Orange (*Philadelphus hirsutus*)—see *Philadelphus*.

Hairy-leaved Primrose (*Primula hirsuta*)—see *Primula*.

Hairy-leaved Rhododendron (*Rhododendron hirsutum*)—see *Rhododendron*.

Hairy-leaved Whitlow-grass (*Draba aizoides*)—see *Draba*.

Hairy-podded Whitlow-grass (*Draba aizoon* & *D. lasiocarpa*)—see *Draba*.

Hairy-stemmed Poppy (*Papaver pilosum*)—see *Papaver*.

Hairy-styled Lime-tree (*Tilia europæa dasystyla*)—see *Tilia*.

Hairy-tufted House-leek (*Sempervivum piliferum*)—see *Sempervivum*.

Hakea.—*Ord.* Proteaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1790. *Ht.* 2 to 16 ft. *Species* cultivated, 5. *Flowers*, red, white, yellow; *Ap.* to July. *Compost*, two parts peat, one part loam, one part sand. *Position*, pots in sunny greenhouse. *Pot.*, Mar. or *Ap.*; firm potting with good drainage essential. *Prune* into shape after flowering. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 45° to 50°. *Place* plants outdoors July to Sept. to mature growth. *Propagate* by cuttings of firm shoots 1 to 2 in. long inserted in sandy peat under bell-glass in temp. 50° to 55°, *Ap.* to Aug.

Hale-nut (*Corylus Avellana*)—see *Corylus*.

Halesia (Silver-bell, Snowdrop-tree).—*Ord.* Styracaceæ. Hardy flowering trees. Deciduous. *Nat.* N. America, Japan. *Int.* 1756. *Ht.* 12 to 20 ft. *Species* cultivated, 2. *Flowers*, white; *Ap.* to June. *Soil*, deep

sandy loam. *Position*, sheltered borders, shrubberies, or lawns. *Plant*, Oct. to Feb. *Prune* into shape, Nov. *Propagate* by cuttings of roots inserted in sandy soil outdoors in Mar. or Oct.; by layering shoots in Oct. or Nov.

Halimodendron (Salt-tree).—*Ord.* Leguminosæ. Hardy flowering & orn. foliage shrub. Deciduous. *Nat.* Asiatic Russia. *Int.* 1779. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, purple; May to July. *Leaves*, feather-shaped, whitish & downy. *Soil*, deep sandy. *Position*, shrubberies & open borders. *Plant*, Oct. to Feb. *Prune* into shape, Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil outdoors in Mar. or Ap.; cuttings of firm shoots 4 to 6 in. long inserted in sandy soil outdoors in Oct. & Nov.; layering in Oct., & by grafting on common laburnum in Mar. to form standards.

Halleria (African Fly Honeysuckle).—*Ord.* Scrophulariaceæ. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1762. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, red; Ap. to June. *Compost*, equal parts sandy loam & leaf-mould, & little sand. *Position*, pots in light airy greenhouse. *Pot*, Mar. or Ap. *Prune* moderately after flowering. *Water* freely Mar. to Sept., moderately other times. *Place* plants outdoors July to Sept. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by cuttings of young or partially ripened shoots inserted in sandy peat under bell-glass in temp. 50° to 60°, Ap. to Aug.; layering shoots in autn.

Halle's Magnolia (*Magnolia Halleana*)—see Magnolia.

Hamburgh Parsley (*Petroselinum sativum*)—see Petroselinum.

Hamamelis (American Witch Hazel, Snapping Hazel-nut, Spotted Alder, Winter-bloom).—*Ord.* Hamamelidaceæ. Hardy flowering shrubs. Deciduous. *Nat.* Japan, N. America. *Int.* 1736. *Ht.* 6 to 15 ft. *Species* cultivated, 3. *Flowers*, yellow, purplish crimson; Oct. to Feb. *Soil*, deep rich loam. *Position*, damp borders or shrubberies & margins of lakes. *Plant*, Oct. to Feb. *Prune* into shape Feb. *Propagate* by layering branches in Oct. or Nov.; grafting rare species on common kind in Mar.

Hand Orchis (*Orchis maculata*)—see Orchis.

Handsome Side-saddle-flower (*Sarracenia fortiaea*)—see Sarracenia.

Hard Fern (*Blechnum boreale*)—see Blechnum.

Hard Grass (*Dactylis glomerata*)—see Dactylis.

Hard Pine-tree (*Pinus australis*)—see Pinus.

Hard-hack (*Spiræa tomentosa*)—see Spiræa.

Hardenbergia (Australian Sarsaparilla-tree, Australian Lilac).—*Ord.* Leguminosæ. Greenhouse flowering twining plants. Evergreen. *Nat.* S. Australia. *Int.* 1790. *Ht.* 4 to 10 ft. *Species* cultivated, 2; variety, 1; variegated. *Flowers*, blue, scarlet; Mar. to May. *Compost*, equal parts loam & peat, little silver sand. *Position*, pots, with shoots trained to trellis, or planted out in beds, & shoots trained up rafters. *Pot* or *plant*, Feb. or May. *Water* freely Mar. to Sept., moderately at other times. *Prune* straggling plants into shape in Feb. *Apply* weak stimulants occasionally to healthy plants in flower. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of light sandy soil in temp. of 55° to 65° in Mar. or Ap.; cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Mar. to July.

Hardy Bamboo (*Bambusa falcata*)—see Bambusa.

Hardy Dwarf Cactus (*Opuntia humilis*)—see Opuntia.

Hardy Flesh-coloured Hydrangea (*Hydrangea Otakae*)—see Hydrangea.

Hardy Four-leaved Trumpet-flower (*Bignonia capreolata*)—see Bignonia.

Hardy Indian Balsam (*Impatiens glandulifera*)—see Impatiens.

- Hardy Large Trumpet-flower** (*Tecoma grandiflora*)—see *Tecoma*.
Hardy Purple-flowered Clematis (*Clematis viticella venosa*)—see *Clematis*.
Hardy Trumpet-flower (*Bignonia radicans*)—see *Bignonia*.
Hardy Vervain (*Verbena venosa*)—see *Verbena*.
Hardy White-flowered Hydrangea (*Hydrangea grandiflora*)—see *Hydrangea*.
Hardy White Jasmine (*Jasminum grandiflorum*)—see *Jasminum*.
Hare's-beard (*Verbascum Thapsus*)—see *Verbascum*.
Hare's-foot Fern (*Davallia canariensis*)—see *Davallia*.
Hare-bell (*Campanula rotundifolia* & *Scilla nutans*)—see *Campanula* & *Scilla*.
Hare's-ear (*Bupleurium rotundifolium*)—see *Bupleurium*.
Hare's-eye (*Lychnis diurna*)—see *Lychnis*.
Haricot Bean (*Phaseolus vulgaris*)—see *Phaseolus*.
Harlequin Flower (*Sparaxis grandiflora*)—see *Sparaxis*.
Harpalium (Prairie Sunflower).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1821. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, yellow; July to Sept. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of light sandy soil in temp. of 55° to 60° in Mar., transplanting seedlings outdoors in May, or similar depth in sunny position outdoors in Ap.; division of creeping roots in Oct. or Mar.
Hart Berries (*Vaccinium myrtillus*)—see *Vaccinium*.
Hart's-tongue Fern (*Scolopendrium vulgare*)—see *Scolopendrium*.
Hartford Fern (*Lygodium palmatum*)—see *Lygodium*.
Hartweg's Lupin (*Lupinus Hartwegi*)—see *Lupinus*.
Hask-wort (*Campanula latifolia*)—see *Campanula*.
Hat's Thorn (*Rhamnus catharticus*)—see *Rhamnus*.
Hatchet-like St. John's-wort (*Hypericum dolabriforme*)—see *Hypericum*.
Hausmann's Saxifrage (*Saxifraga Hausmanniana*)—see *Saxifraga*.
Hautbois (*Fragaria elatior*)—see *Fragaria*.
Hautbois Cherry (*Cerasus caproniana*)—see *Cerasus*.
Hautbois Strawberry (*Fragaria elatior*)—see *Fragaria*.
Havannah Tobacco (*Nicotiana repanda*)—see *Nicotiana*.
Hawk Weed (*Hieracium aurantiacum*)—see *Hieracium*.
Hawk's-beard (*Crepis aurea*)—see *Crepis*.
Hawk's-eye (*Hieracium aurantiacum*)—see *Hieracium*.
Haworthia.—*Ord.* Liliacæ. Greenhouse succulent-leaved plants. *Orn.* foliage. *Nat.* S. Africa. *Int.* 1720. *Ht.* 2 to 18 in. *Species* cultivated, 42. *Flowers*, greenish. *Leaves*, fleshy, transparent, warty & variegated *Compost*, equal parts light loam, broken bricks, mortar rubbish & river sand *Position*, well drained pots in light greenhouse shaded from sun. *Pot*, Mar. or Ap. *Water* moderately Ap. to Sept., occasionally other times. *Repotting* necessary only when plants show signs of ill-health. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans in above compost in temp. 65°. Mar. to Aug.; by suckers placed in small pots & treated as advised for plants.
Haws (*Crataegus oxyacantha*)—see *Crataegus*.
Hawthorn (*Crataegus oxyacantha*)—see *Crataegus*.
Hawthorn-leaved Bramble (*Rubus crataegifolius*)—see *Rubus*.
Hawthorn-scented Pond-weed (*Aponogeton distachyon*)—see *Aponogeton*.

Hay-scented Fern (*Cheilanthes odora*, *Dicksonia pilosiuscula*, & *Lastrea amula*)—see *Cheilanthes*, *Dicksonia*, & *Lastrea*.

Hazel (*Corylus Avellana*)—see *Corylus*.

Hazel Nut (*Corylus Avellana*)—see *Corylus*.

He Broom (*Cytisus laburnum*)—see *Cytisus*.

He Heather (*Calluna vulgaris*)—see *Calluna*.

Heart-leaved Alder (*Alnus cordifolia*)—see *Alnus*.

Heart-leaved Balm (*Cedronella cordata*)—see *Cedronella*.

Heart-leaved Hydrangea (*Hydrangea cordata*)—see *Hydrangea*.

Heart-leaved Lily (*Lilium cordifolium*)—see *Lilium*.

Heart-leaved Ox-eye (*Bupthalmum speciosum*)—see *Bupthalmum*.

Heart-leaved Rock-rose (*Cistus Oupanianus*)—see *Cistus*.

Heart-leaved Saxifrage (*Saxifraga cordifolia* & *Megasea cordifolia*)—see *Saxifraga* & *Megasea*.

Heart-leaved Snapdragon (*Antirrhinum Asarina*)—see *Antirrhinum*.

Heart-leaved St. John's-wort (*Hypericum cordifolium*)—see *Hypericum*.

Heart-leaved Starwort (*Aster cordifolius*)—see *Aster*.

Heart-leaved Virginian Creeper (*Ampelopsis cordata*)—see *Ampelopsis*.

Heart's-ease (*Viola tricolor*)—see *Viola*.

Heath (*Erica cinerea* & *Calluna vulgaris*)—see *Erica* & *Calluna*.

Heath Cypress (*Lycopodium alpinum*)—see *Lycopodium*.

Heath Fern (*Lastrea oreopteris*)—see *Lastrea*.

Heath Pea (*Lathyrus macrorrhizus*)—see *Lathyrus*.

Heath-leaved Starwort (*Aster ericoides*)—see *Aster*.

Heath-leaved St. John's-wort (*Hypericum coris*)—see *Hypericum*.

Heath-like Lavender-Cotton (*Santolina ericoides*)—see *Santolina*.

Heath-like Sun-rose (*Helianthemum Fumana*)—see *Helianthemum*.

Heather (*Erica cinerea* & *Calluna vulgaris*)—see *Erica* & *Calluna*.

Heavy-scented Primrose (*Primula graveolens*)—see *Primula*.

Heavy-spiked Loose-strife (*Lysimachia barystachya*)—see *Lysimachia*.

Heavy-wooded Pine-tree (*Pinus ponderosa*)—see *Pinus*.

Hedera (Ivy, Barren Ivy, Bent-wood, Bind-wood, Tree Ivy, Golden Tree Ivy, Silver Tree Ivy, Gold-blotched Ivy, Three-coloured Ivy, Yellow-berried Roman Ivy, Marbled-leaf Ivy, Clustered Ivy, Irish Ivy, Poet's Ivy, Giant Ivy, Variegated Japan Ivy, Crimean Ivy, Variegated Ivy).—*Ord.* *Araliaceae*. Hardy evergreen climbing shrubs. Orn. foliage. *Nat.* Europe (Britain), N. Africa, Central Asia, Canary Islands. *Ht.* 6 to 40 ft. *Species* cultivated, 2; varieties about 40. *Flowers*, green; Oct. to Nov. *Leaves*, green, purplish, or variegated with yellow & white. *Berries*, purplish black, reddish orange, golden; winter. *Soil*, ordinary rich. *Position*, green-leaved kinds against walls of all aspects, railings, tree stumps, arbours, trellises, on banks & under shade of trees; variegated kinds against south or west walls or fences. *Plant*, Sept., Oct., Nov., Feb., Mar. or Ap. *Peg* shoots to surface of soil when first planted in any position. *Prune* Ap., cutting off old leaves & straggling shoots. *Water* freely in dry weather. *Apply* stimulants if vigorous growth is desired. *Pot culture*: *Compost*, two parts loam, one part leaf-mould or decayed manure & sand. *Position*, wall drained pots in unheated greenhouse, balconies or windows. *Pot*, Oct. or Mar. *Water* moderately Oct. to Mar., freely afterwards. *Prune* into shape, Ap. *Apply* stimulants to established plants in sum. only. *Hanging Baskets*: *Compost*, same as above. *Plant*, Oct. or Mar. *Position*, unheated greenhouses, balconies or

windows. *Water* moderately Sept. to Ap., freely afterwards. *Screens in Rooms*: *Compost* as above. *Position*, boxes, well drained, with shoots trained to wire or wood trellis. *Plant*, Oct. or Mar. *Water* moderately Mar. to Oct. occasionally other times. *Propagate* by cuttings of firm shoots 6 to 8 in. long inserted in ordinary soil at base of north wall or fence, Sept. to Nov., in well drained pots in cold frame in Oct., or in temp. 55° to 65°, Sept. to Nov.; tree & variegated kinds by cleft grafting on common sort in temp. 55° in Feb.

Hedge-bells (*Convolvulus sepium*)—see *Convolvulus*.

Hedge-berry (*Prunus padus* & *Cerasus avium*)—see *Prunus* & *Cerasus*.

Hedge-hog Holly (*Ilex aquifolium ferox*)—see *Ilex*.

Hedge-hog Juniper (*Juniperus echiniformis*)—see *Juniperus*.

Hedge-hog Thistle (*Cactus echinocactus*)—see *Cactus*.

Hedge Hyssop (*Gratiola officinalis*)—see *Gratiola*.

Hedge Lily (*Convolvulus sepium*)—see *Convolvulus*.

Hedge-maids (*Glechoma hederacea*)—see *Glechoma*.

Hedge Pink (*Saponaria officinalis*)—see *Saponaria*.

Hedge-taper (*Verbascum Thapsus*)—see *Verbascum*.

Hedge Vine (*Clematis vitalba*)—see *Clematis*.

Hedge Violet (*Viola sylvatica*)—see *Viola*.

Hedychium (Fragrant Garland-flower).—*Ord.* Scitaminaceæ. Stove & greenhouse herbaceous perennials. Flowering. *Nat.* E. Indies. *Int.* 1791. *Ht.* 2 to 6 ft. *Species* cultivated, 4. *Flowers*, scarlet, yellow, fragrant; May to Nov. *Compost*, two parts peat, one of loam & one of sand. *Position*, well drained pots, tubs or boxes, or planted in beds in stove or warm greenhouse. Pot plants may be stood outdoors July to Aug. *Pot*, Mar. or Ap. *Water* freely Ap. to Nov., occasionally other times. *Apply* liquid manure twice a week to plants in flower. *Temp.*, stove species, Mar. to Nov. 60° to 70°, Nov. to Mar. 50° to 55°; greenhouse species, Mar. to Nov. 65° to 75°, Nov. to Mar. 45° to 50°. *Cut* down flower stems immediately after flowering. *H. Gardnerianum* adapted for outdoor culture in sum. *Plant*, May, in rich soil. *Water* freely in dry weather. *Apply* liquid manure when in flower. *Lift* roots in Oct. & store in frost-proof place till planting time. *Propagate* by division of rhizomes (creeping stems) in Mar. or Ap.

Hedysarum (French Honeysuckle, Maltese Clover, Red Satin-flower, Soola Clover).—*Ord.* Leguminosæ. Hardy perennial herbs. *Nat.* S.W. Europe, N. America, Siberia. *Int.* 1596. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4; variety, 1. *Flowers*, red, purple, white; May to Sept. *Soil* ordinary. *Position*, sunny rockeries, banks or slopes for dwarf species; sunny well drained borders for tall species. *Plant*, Oct., Mar. or Ap. *Cut* down flower stems in Oct. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., transplanting seedlings in June to final position; division of roots, Oct. or Ap.

Hedyscepe (Umbrella Palm).—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Lord Howe's Island. *Int.*, date unknown. *Ht.* 3 to 15 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, green. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in shady plant stove. *Pot*, Feb., Mar. or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Syringe* twice daily Mar. to Sept. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in light soil, in temp. 70° to 80°, in Feb. or Mar.

Helen-flower (*Helenium autumnale*)—see *Helenium*.

Helenium (Helen-flower, Sneezewort, Sneezeweed).—*Ord.* Compositæ. Hardy herbaceous perennials. Flowering. *Nat.* N. America, United States. *Int.* 1729. *Ht.* 2 to 6 ft. *Species* cultivated, 2; varieties, about 3. *Flowers*, yellow, orange; July to Nov. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Flowers* exceedingly useful for cutting. *Propagate* by seeds sown

½ in. deep outdoors in Ap., transplanting seedlings in June or July; division of roots in Oct. or Mar.

Heliamphora (South American Pitcher-plant).—*Ord.* Sarraceniaceæ. Greenhouse herbaceous perennial. Orn. foliage. *Nat.* Rotaina. *Int.* 1827. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, rose; spring. *Leaves*, tubular, pitcher-like. *Compost*, equal parts peat & living sphagnum moss. *Position*, well drained pots or pans under bell-glass, or in cool shady part of greenhouse. *Pot.* Mar. or Ap. *Water* abundantly Ap. to Sept., moderately other times. *Temp.*, Mar. to Sept. 55° to 56°; Sept. to Mar. 40° to 50°. *Propagate* by division of plants in Mar. or Ap.

Helianthemum (Sun Rose, Rock Rose).—*Ord.* Cistineæ. Hardy flowering shrubs. Evergreen. *Nat.* Europe (Britain), N. Africa, W. Asia. *Int.* (foreign species) 1780. *Ht.* 3 in. to 4 ft. *Species* cultivated, 3; varieties many. *Flowers*, single & double, yellow, white, rose, red, scarlet; May to Sept. *Leaves* cf *H. vulgare aurea*, golden. *Soil*, light sandy. *Position*, sunny banks or rockeries. *Plant*, Oct., Mar. or Ap. *Prune* into shape, Mar. *Propagate* by seeds sown ¼ in. deep in bed of light soil outdoors in Ap.; cuttings of shoots, 1 to 2 in. long, inserted in well drained pots of sandy soil in cold frame in Aug. or Sept.; division of plants in Oct. or Ap.

Helianthus (Sunflower, Golden Flower of Peru, Canada Potato, Jerusalem Artichoke).—*Ord.* Compositæ. Hardy annual or perennial herbs; tubers of Jerusalem Artichoke edible. *Nat.* (Sunflowers) N. America, United States, Texas; (Jerusalem Artichoke) Upper Canada. *Int.* (annuals) 1596, (perennials) 1597, (Jerusalem Artichoke) 1617. *Species* cultivated, 2 annuals, 6 perennials; varieties many. *Ht.* 2½ to 8 ft. *Flowers*, double & single, yellow petals, violet centres; June to Oct. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds ½ in. deep in Ap. where plants are to flower, or in pots in temp. 55° to 65° in Ap., transplanting seedlings outdoors in June. *Apply* stimulants occasionally when flower buds form. *Culture of perennial species*: *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Water* in dry weather. *Apply* stimulants occasionally when plants show flower buds. *Lift* & replant every third year. *Culture of Jerusalem Artichoke* (*H. tuberosus*): *Soil*, ordinary rich. *Position*, open or shady. *Plant*, Feb. or Mar., placing tubers 6 in. deep & 12 in. apart in rows 3 ft. asunder. *Earth-up* when stems are 6 in. high. *Lift* tubers in Nov. & store in sand or dry soil in outhouse, or leave in ground & dig as required. *Propagate* annual & perennial species by seeds sown ½ in. deep in sunny place outdoors in Mar. or Ap.; perennials by division of roots, Oct., Mar. or Ap.; Jerusalem Artichoke, by tubers treated as above.

Helichrysum (Everlasting flower, Immortelle-flower, Moth-wort, Australian Everlasting, Shrubby Everlasting, God's-flower, Gold-flower, Golden Cassidony, Golden Tufts).—*Ord.* Compositæ. Half-hardy annual, hardy herbaceous perennial, & evergreen shrub. *Nat.* Europe, Australia. *Int.* (annual) 1799, (perennial) 1739, (shrub) 1829. *Ht.* 6 in. to 4 ft. *Species* cultivated, 1 annual, 1 perennial, 1 shrub; varieties many. *Flowers*, single & double, white, scarlet, crimson, yellow, rose; June to Sept.; useful for winter decoration. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Gather* flowers for winter decoration directly they are fully expanded. *Culture of perennial species*: *Soil*, rich loam. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Cut* down flower stems in Oct. *Gather* flowers for winter decoration when fully developed. *Culture of shrubby species*: *Soil*, rich loam. *Position*, sunny well drained borders on summit of rockery. *Plant*, Sept. or Oct. *Protect* in very severe weather. *Propagate* annual species by seeds sown in light soil in Mar., in temp. 55° to 65°, or in open ground end of Ap.; perennial species by cuttings inserted in sandy soil under bell-glass in Mar., in temp. 55°; shrubby species by cut-

tings inserted in well drained pots of sandy soil, in Sept. or Oct., in cold frame.

Heliconia (False Plantain, Parrot's Plantain).—*Ord.* Scitamineæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Brazil, Guiana, Grenada, Columbia, Jamaica, W. Indies, Sumatra. *Int.* 1786. *Ht.* 1 to 3 ft. *Species* cultivated, 9. *Flowers* insignificant. *Leaves*, green; stem striped with black, green, & yellow. *Compost*, two parts fibrous loam, one part leaf-mould, peat & sand. *Position*, pots in shady part of plant stove. *Pot.* Feb. or Mar. *Water* freely Mar. to Sept., moderately Sept. to Nov., none Nov. to Mar. *Syringe* daily Mar. to Sept. *Temp.*, Feb. to Sept. 65° to 75°; Sept. to Nov. 60° to 70°; Nov. to Feb. 55° to 65°. *Propagate* by division of roots in Feb. or Mar.

Heliophila (Cape Stock, Sun Cress).—*Ord.* Cruciferae. Hardy annuals. *Nat.* S. Africa. *Int.* 1774. *Ht.* 9 to 18 in. *Species* cultivated, 3. *Flowers*, white, purple, blue, violet; June to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. *Water* in dry weather. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in pans or boxes of light soil in temp. of 55° in Mar., transplanting seedlings outdoors end of May, or similar depth in Ap. where plants are to flower.

Heliopsis (North American Ox-eye).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1714. *Ht.* 3 to 6 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary rich. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Water* in dry weather. *Apply* stimulants occasionally when plants show flower buds. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny place outdoors in Mar. or Ap.; division of plants, Oct., Mar. or Ap.

Heliotrope (*Heliotropium peruvianum*)—see Heliotropium.

Heliotropium (Heliotrope, Cherry Pie, Turnsole).—*Ord.* Boraginæ. Greenhouse flowering shrub. *Nat.* Peru. *Int.* 1757. *Ht.* 1 to 6 ft. *Species* cultivated, 1; varieties several. *Flowers*, various shades of blue & white, fragrant; Jan. to Dec. *Compost*, equal parts light loam, leaf-mould & sand. *Position*, pots or beds, with shoots growing loosely or trained to trellis, walls, pillars or rafters in greenhouse; in sunny beds outdoors June to Sept., or in pots in windows. *Pot.* Feb. to May. *Plant* outdoors, June. *Lift* & repot, Sept. *Water* freely Mar. to Oct., moderately afterwards. *Apply* liquid or artificial manure to healthy plants in flower. *Prune* old plants in closely in Feb. *Training*: Nip off points of main, also lateral shoots when 3 in. long to form dwarf plants; points of main shoots when 12 in. long, & side shoots when 3 to 6 in. long, to form pyramids; points of main shoots when 2 ft. long, & of lateral shoots at apex when 3 to 6 in. long—all side shoots to within 4 in. of apex to be removed altogether—to form standards. *Temp.*, Feb. to Oct. 60° to 70°; Oct. to Feb. 50° to 55°. *Pot* plants do best in cold frame or sunny position outdoors July & Aug. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or pans of light soil in temp. 65° to 75° in Mar.; by cuttings of shoots 2 to 3 in. long inserted in pots of sandy soil under bell-glass, or in propagator in temp. 65° to 75° in Mar., Ap., Aug. or Sept.

Helipterum (Australian Everlasting, Immortelle-flower)—*Ord.* Compositæ. Hardy annual. *Nat.* W. Australia. *Int.* 1863. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, yellow, green; sum. *Soil*, light rich. *Position*, sunny well drained borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of light soil, in temp. of 55° in Mar., transplanting seedlings outdoors end of May or early in June.

Hellebore (*Helleborus niger*)—see Helleborus.

Helleborine (*Cephalanthera grandiflora* & *Epipactus latifolia*)—see *Cephalanthera* & *Epipactus*.

Helleborus (Hellebore, Christmas Rose, Lenten Rose).—*Ord.* Ranunculacæ. Hardy perennials. Evergreen & deciduous. *Nat.* Europe (Britain),

Asia. *Int.* (foreign species) 1596. *Ht.* 6 to 24 in. *Species* cultivated, 11; varieties several. *Flowers* (Christmas Rose), white, green, Dec. to Feb.; (Lenten Roses) green, purple, rose, red, Jan. to May. *Outdoor culture:* *Soil*, rich loamy. *Position*, shady well drained east border. *Plant*, Oct., Nov. & Mar., 12 in. apart. *Mulch* with well decayed manure in Ap. *Water* freely in dry weather. *Apply* liquid manure occasionally May to Sept. *Lift* & replant every five or six years. *Protect* with handlights, cloches, or frames, or cover surface of bed with moss when in bloom. *Manure* soil freely prior to planting. *Pot culture:* *Compost*, two parts fibry loam, one part decayed manure. *Position*, cold frame, or greenhouse heated to temp. 40° to 50°. *Pot*, Oct. *Lift* fresh plants annually for pot culture, replanting old ones outdoors in Ap. or May. *Water* moderately. *Size* of pot for single plants, 6 to 8 in. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shallow boxes of sandy soil in cold frame Oct. or Mar., transplanting seedlings outdoors when a year old; by division of roots in July.

Helmet Flower (*Aconitum napellus* & *Scutellaria alpina*)—see *Aconitum* & *Scutellaria*.

Helmet Orchid (*Coryanthes maculata*)—see *Coryanthes*.

Helonias (Stud-flower).—*Ord.* Liliaceæ. Hardy herbaceous perennial. *Nat. N. America.* *Int.* 1758. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, purple, rose; June to Sept. *Soil*, sandy loam & peat. *Position*, moist, shady borders or margins of lakes or ponds. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in a well drained pan of sandy peat in cold shady frame in Mar. or Ap.; division of roots, Oct. or Mar.

Hemerocallis (Day Lily, Dumortier's Lily, Variegated Day Lily, Two-ranked Day Lily, Tawny Day Lily, Grass-leaved Day Lily, Yellow Day Lily, Dark Day Lily).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* S. Europe, N. China, Japan, Siberia. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 5; varieties several, 1 variegated. *Flowers*, single & double, orange, yellow, mostly fragrant; June to Sept. *Soil*, ordinary deep rich. *Position*, moist borders, open or slightly shady. *Plant*, Oct., Nov., Mar. or Ap.; singly or in groups. *Lift* & replant only when they become unhealthy. *Mulch* established clumps with decayed manure in Ap. or May. *Propagate* by division of roots, Oct., Nov. or Mar.

Hemionites (Mule Fern).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* India, W. Indies, Jamaica. *Int.* 1793. *Ht.* 9 to 12 in. *Species* cultivated, 3. *Fronds*, heart, hand, & feather-shaped. *Compost*, two parts peat & one of sand. *Position*, small well drained pots in shade. *Pot*, Feb. or Mar. *Water* moderately Mar. to Sept., occasionally other times. *Syringing* not required. *Temp.*, Mar. to Sept. 60° to 70°; Sept. to Mar. 55° to 60°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 65° to 75° at any time.

Hemitelia (Smith's Tree Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* Brazil, Venezuela, W. Indies, S. Africa, New Zealand. *Int.* 1824. *Ht.* 6 to 14 ft. *Species* cultivated, 3 stove, 2 greenhouse. *Fronds*, feather-shaped, 1 to 10 ft. long. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots or tubs in shade. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* trunks daily Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65°, Mar. to Sept. 65° to 70° for stove species; Sept. to Mar. 45° to 55°, Mar. to Sept. 55° to 65° for greenhouse species. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans under bell-glass in moist, shady position in temp. 75° to 85°.

Hemlock Spruce Fir (*Abies canadensis*)—see *Abies*.

Hemp Palm (*Chamærops excelsa*)—see *Chamærops*.

Hemp-seed Oil-plant (*Cannabis sativa*)—see *Cannabis*.

Hen-and-Chickens Daisy (*Bellis perennis prolifera*)—see *Bellis*.

Hen-and-Chickens House-leek (*Sempervivum globiferum*)—see *Sempervivum*.

Henderson's Bell-flower (*Campanula Hendersoni*)—see *Campanula*.

Henna Plant (*Lawsonia alba*)—see *Lawsonia*.

Henry's Primrose (*Primula Henryi*)—see *Primula*.

Hepatica (Golden Trefoil, Noble Liverwort, Round-lobed Liver leaf, Large Blue Hepatica, Sharp-lobed Hepatica).—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. *Nat.* Europe, N. America. *Int.* 1573. *Ht.* 3 to 12 in. *Species* cultivated, 2; varieties numerous. *Flowers*, single & double, white, blue, pink; Feb. to May. *Soil*, light, rich, well drained. *Position*, partially shaded & sheltered borders, rockeries, or beds. *Plant*, Oct. & Nov. *Life* & replant every six or seven years only. Do not disturb soil near roots. *Mulch* with decayed manure in autn. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in shallow boxes of light sandy loam in July or Aug. Cover soil with roofing slates & place in shady cold frame till Nov., then remove slates and place in temp. 55°, or leave in frame till spring, when stand in shady position outdoors & keep moist. Transplant seedlings in flowering position the following Oct. Increased also by division of roots in Oct. or Nov. The *Hepatica* is strictly a species of *Anemon*.

Hepatica-leaved Toad-flax (*Linaria hepaticæfolia*)—see *Linaria*.

Hep-briar (*Rosa canina*)—see *Rosa*.

Hep-rose (*Rosa canina*)—see *Rosa*.

Hep-tree (*Rosa canina*)—see *Rosa*.

Heps (*Rosa canina*)—see *Rosa*.

Heracleum (Giant Cow Parsnip).—*Ord.* Umbelliferae. Hardy perennial herbs. Orn. foliage. *Nat.* S. Europe, Asia, Caucasus. *Int.* 1789. *Ht.* 4 to 12 ft. *Species* cultivated, 3. *Flowers*, white, yellow; June to Aug. *Leaves*, large, feather-shaped, green. *Soil*, ordinary. *Position*, open or sheltered shrubberies, borders, margins of ponds, lakes, etc. *Plant*, Oct. or Nov. Remove flower stems immediately they appear early in June if fine, healthy foliage is desired. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Herb-Bennet (*Geum urbanum* & *Valeriana officinalis*)—see *Geum* & *Valeriana*.

Herb-Carpenter (*Prunella vulgaris*)—see *Prunella*.

Herb-Christopher (*Actæa spicata* & *Osmunda regalis*)—see *Actæa* & *Osmunda*.

Herb-Frankincense (*Laserpitium latifolium*)—see *Laserpitium*.

Herb-Trinity (*Viola tricolor* & *Hepatica triloba*)—see *Viola* & *Hepatica*.

Herb-Lily (*Alströmeria aurea*)—see *Alströmeria*.

Herb-Louisa (*Aloysia citriodora*)—see *Aloysia*.

Herb-Paris (*Paris quadrifolia*)—see *Paris*.

Herb-Peter (*Primula veris*)—see *Primula*.

Herb-Twopence (*Lysimachia nummularia*)—see *Lysimachia*.

Herbaceous Periwinkle (*Vinca herbacea*)—see *Vinca*.

Herbert's Hybrid Rhododendron (*Rhododendron hybridum*)—see *Rhododendron*.

Herb-of-Grace (*Ruta graveolens*)—see *Ruta*.

Herb-of-Repentance (*Ruta graveolens*)—see *Ruta*.

Hercules-club (*Xanthoxylon Olava-Herculis* & *Aralia spinulosa*)—see *Xanthoxylon* & *Aralia*.

Herniaria (Rupture-wort, Turk's Herb).—*Ord.* Illicebrææ. Hardy perennial trailing herb. *Nat.* Europe (Britain), Asia. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, green; June to Aug. *Leaves*, roundish, dense, dark green. *Soil*, ordinary. *Position*, sunny or shady rockeries, as edgings to

carpet beds or borders. *Plant*, Oct., Nov., Mar. to June. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil outdoors, Mar. or Ap.; *division of plants*, Oct., Nov., Mar., Ap. or May.

Heron's-bill (*Erodium petraeum*)—see *Erodium*.

Herring-bone Fern (*Blechnum spicant*)—see *Blechnum*.

Hertfordshire Elm (*Ulmus suberosa latifolia* & *U. s. angustifolia*)—see *Ulmus*.

Hesperis (Sweet Rocket, Dame's Violet, Damask Violet, Dame's Rocket, Common Rocket, Queen's Gilliflower, Winter Gilliflower, Double Rocket, Melancholy Gentleman, Night-scented Rocket, Night-scented Stock).—*Ord.* Cruciferae. Hardy biennial & perennial herbs. *Nat.* S. & W. Europe, Russian Asia. *Int.* 1597. *Ht.* 1 to 3 ft. *Species* cultivated, 1 perennial, 1 biennial; varieties several. *Flowers*, single & double, white, purple, fleh, red, fragrant; May to Sept. *Culture of perennial species (H. matronalis)*: *Soil*, ordinary rich moist. *Position*, sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure in May. *Apply* liquid manure occasionally in sum. to double varieties. *Cut* down flower stems in Oct. *Liſt* & replant double kinds every second year. *Propagate* single kinds by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Ap., transplanting seedlings in June or July; double kinds by cuttings of young shoots 3 in. long inserted in sandy soil in shady position outdoors, July to Sept., or under handlight or in cold frame, Sept. or Oct., transplanting in Mar.; also by division of roots, Oct. or Mar. *Culture of biennial species (H. tristis)*: *Soil*, ordinary light. *Position*, well drained sunny borders or in chinks or crevices of old walls. *Sow* seeds $\frac{1}{2}$ in. deep in patches in borders where plants are required to grow, June to Sept.; in chinks or crevices of walls, Ap. to July.

Herring-bone Thistle (*Chamaepeuce casabonae*)—see *Chamaepeuce*.

Hesperantha (Evening-flower).—*Ord.* Iridaceae. Greenhouse bulbous flowering plants. Deciduous. *Nat.* S. Africa. *Int.* 1787. *Ht.* 6 to 12 in. *Species* cultivated, 6. *Flowers*, white, brown, red, fragrant; Ap. to Sept. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure, & little sand. *Position*, well drained pots in cold frame, cool greenhouse or window till growth begins, then remove to temp. 45° to 55°. *Pot*, Nov., placing five bulbs 3 in. deep in a 5 in. pot. *Cover* pots with cocoanut-fibre refuse or cinder ashes till growth begins. *Water* moderately from time growth commences till flowers fade, then gradually withhold, keeping bulbs quite dry from Sept. to Jan. *Repot* annually. *Propagate* by offsets treated as advised for bulbs.

Hesperescordon (Missouri Hyacinth).—*Ord.* Liliaceae. Hardy bulbous flowering plant. Deciduous. *Nat.* California. *Int.* 1833. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety, 1. *Flowers*, white, green, lilac; June to Aug. *Soil*, rich sandy loam. *Position*, warm well drained borders. *Plant* bulbs Sept. & Oct. 4 in. deep & 3 in. apart. *Liſt* & replant annually. *Mulch* with decayed cow manure in sum. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in Mar.; by offsets treated as advised for bulbs.

Hessea.—*Ord.* Anaryllidaceae. Greenhouse bulbous flowering plants. Deciduous. *Nat.* Cape of Good Hope. *Int.* 1774. *Ht.* 3 to 9 in. *Species* cultivated, 4. *Flowers*, white, yellow, pink; Ap., Aug., Oct., Nov. *Compost*, two parts sandy soil, one part leaf-mould or decayed cow manure, & little sand. *Position*, well drained pots in cold frame, cool greenhouse, or window till growth begins, then remove to temp. 45° to 55°. *Pot*, Nov., placing five bulbs 3 in. deep in a 5-in. pot. *Cover* pots with cocoanut-fibre refuse or cinder ashes till growth begins. *Water* moderately from time growth commences till flowers fade, then gradually withhold, keeping bulbs quite dry from Sept. to Jan. *Repot* annually. *Propagate* by offsets treated as bulbs.

Heteranthera (Mud Plantain).—*Ord.* Pontederaceae. Hardy aquatic perennial herb. Flowering & orn. foliage. *Nat.* N. America. *Int.*, date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, violet, blue; May to

Aug. *Soil, boggy. Position, margins of ponds or rivulets. Plant, Oct., Ap. or Mar. Propagate by division of plants, Oct. or Mar.*

Heterotrichum.—South American plants of no special garden value.

Heuchera (Alum-root, American Sanicle)—*Ord.* Saxifragaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* N. & W. America, Virginia, Carolina, Mexico. *Int.* 1666. *Species* cultivated, 8. *Flowers*, white, purple, red, yellow, violet, green; May to Oct. *Leaves*, heart-shaped, or roundish; deep green, veined with reddish brown. *Soil*, ordinary light rich or peaty. *Position*, open sunny well drained borders. *Plant, Oct., Nov., Mar. or Ap. Propagate by division of roots or crowns, Mar. to May.*

Heuffel's House-leek (*Sempervivum Heuffeli*)—see *Sempervivum*.

Hexacentris.—*Ord.* Acanthaceæ. Stove flowering perennial climber. Evergreen. *Nat.* Mysore. *Int.* 1854. *Ht.* 6 to 12 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow, crimson; May to Aug. *Compost*, equal parts peat, leaf-mould & sand, with little loam. *Position*, well drained pots in plant stove, with shoots trained up rafters or on trellis. *Pot, Feb. or Mar. Prune* shoots in closely immediately after flowering. *Water* freely Ap. to Sept., moderately other times. *Apply* weak liquid manure to plants in flower. *Syringe* daily Mar. till flowers appear. *Temp.*, Mar. to Sept. 65° to 80°; Sept. to Mar. 50° to 55°. *Propagate by* cuttings inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75° in March to Aug.

Hibbertia.—*Ord.* Dilleniaceæ. Greenhouse flowering climber. *Nat.* Australia. *Int.* 1816. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, yellow; Mar. to Aug. *Compost*, equal parts loam & peat & little sand. *Position*, pots, tubs, or beds; shoots trained up rafters. *Pot or plant, Feb. or Mar. Prune* straggling shoots, Feb. *Water* abundantly Mar. to Sept., moderately afterwards. *Temp.* Mar. to Oct., 55° to 75°; Oct. to Mar. 45° to 55°. *Propagate by* cuttings of moderately firm shoots 2 to 3 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Ap. to Aug.

Hibiscus (African Ketmia, Brown Hemp, Hemp Mallow, Musk Mallow, Rose Mallow, Malabar Rose, Blacking-plant, Chinese Rose Mallow, Shoeblack-plant, Shoe-flower, Fringed Rose Mallow, Hardy Scarlet Hibiscus, Rose of Sharon, Painted Lady Mallow, Bladder Ketmia, Flower-of-an-hour, Good-night-at-noon, Venice Mallow, *Althæa frutex*).—*Ord.* Malvaceæ. Stove evergreen & hardy deciduous shrubs, hardy annuals & perennials. Flowering & orn. foliage. *Nat.* N. America, U.S.A., China, Japan, Africa, Syria. *Int.* 1696. *Ht.* 2 to 15 ft. *Species* cultivated, 3 stove, 3 perennials, 1 annual; varieties numerous. *Flowers*, scarlet, rose, yellow, crimson, white, purple; double & single; Ap. to Oct. *Leaves*, green, or variegated with cream, rose, & crimson. *Culture of stove species*: *Compost*, equal parts fibry peat & loam, with charcoal & sand. *Position*, well drained pots or beds, with shoots trained to wall. *Pot or plant, Feb. or Mar. Prune* into shape, Feb. *Water* abundantly Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Culture of perennial species*: *Soil*, ordinary. *Position*, well drained sunny border. *Plant, Oct. or Mar. Cut* down stems in Oct. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow seeds* $\frac{1}{2}$ in. deep in Ap. where plants are to flower. *Propagate* stove species by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy peat under bell-glass in temp. 75° in Mar., by cuttings of firm shoots inserted in sandy peat under bell-glass in temp. 75° in spring or sum., by grafting in Mar.; perennial species by seeds sown outdoors in Ap., or division of root in Mar.; annual species by seeds sown as directed above.

Hickory (*Carya alba*)—see *Carya*.

Hickory Pine-tree (*Pinus Balfouriana*)—see *Pinus*.

Hieracium (Golden Mouse-ear, Grim-the Collier, Orange-flowered Hawk-weed, Mouse-ear, Mouse-ear Hawk-weed).—*Ord.* Compositæ. Hardy

perennial herbs. *Nat.* Europe (Britain), Asia, N. America. *Int.* 1732. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, lemon, red, orange; June to Aug. *Soil*, ordinary. *Position*, sunny banks or elevated borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar. or Ap.; division of roots any time in spring.

Hierochloe (Holy Grass). — *Ord.* Graminaceæ. Hardy orn. perennial grasses. *Nat.* N. Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Inflorescence*, chestnut-coloured, fragrant, borne in panicles; May to July. *Soil*, ordinary. *Position*, damp, shady borders, or margins of ponds. *Plant*, Mar. or Ap. *Propagate* by seeds sown in damp position outdoors in spring; division of plants in Mar.

Higginsia. — *Ord.* Cinchonaceæ. Stove orn. foliage & flowering perennials. *Nat.* S. America. *Int.* 1859. *Ht.* 1 to 4 ft. *Species* cultivated, 6. *Flowers*, yellow, red; Ap. to Aug. *Leaves*, deep green, velvety green, grey, reddish crimson, creamy white, reddish purple. *Compost*, two parts peat, one of sand & charcoal. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* daily Feb. to Sept. *Temp.*, Feb. to Aug. 70° to 80°; Aug. to Nov. 65° to 75°; Nov. to Feb. 60° to 70°. *Propagate* by cuttings of shoots 2 to 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75°, Feb. to June.

High-Clere Holly (*Ilex aquifolium altaclarensis*) — see *Ilex*.

Hig-taper (*Verbascum Thapsus*) — see *Verbascum*.

High Mallow (*Malva sylvestris*) — see *Malva*.

High-taper (*Verbascum Thapsus*) — see *Verbascum*.

Highland Pine-tree (*Pinus sylvestris horizontalis*) — see *Pinus*.

Hill Daphne (*Daphne collina*) — see *Daphne*.

Himalayan Andromeda (*Andromeda fastigiata*) — see *Andromeda*.

Himalayan Honeysuckle (*Leycesteria formosa*) — see *Leycesteria*.

Himalayan Laurel (*Aucuba himalaica*) — see *Aucuba*.

Himalayan Lilac (*Syringa emodi*) — see *Syringa*.

Himalayan Oak (*Quercus lanata*) — see *Quercus*.

Himalayan Primrose (*Primula sikkimensis*) — see *Primula*.

Himalayan Raspberry (*Rubus rugosus*) — see *Rubus*.

Himalayan Wallflower (*Erysimum pachycarpum*) — see *Erysimum*.

Himalayan White Lily (*Lilium polyphyllum*) — see *Lilium*.

Hindsia. — *Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1844. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, ultramarine blue; May to Aug. *Compost*, equal parts rough fibrous peat, light loam, silver sand & charcoal. *Position*, well drained pots in light stove. *Pot*, Feb. or Mar. *Water* freely Ap. to Sept., moderately afterwards. *Prune* into shape, Feb. *Temp.*, Feb. to Aug. 65° to 75°; Aug. to Nov. 60° to 70°; Nov. to Feb. 55° to 65°. *Propagate* by cuttings of firm shoots inserted in well drained pots of pure silver sand under bell-glass in temp. 65° to 75° in Mar. or June.

Hippeastrum (Barbadoes Lily, Knight's Star Lily, Mexican Lily). — *Ord.* Amaryllidaceæ. Stove bulbous plants. Deciduous. *Nat.* Trop. America. *Int.* 1677. *Ht.* 1 to 2 ft. *Species* cultivated, about 6; varieties numerous. *Flowers*, various; Feb. to July. *Compost*, two parts turfy loam, one part river sand & a few crushed bones. *Position*, well drained pots in light part of stove. *Pot*, Feb., burying bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* large bulbs annually & repot every three or four years only. *Temp.*, Feb. to Sept. 65° to 75°; Sept. to Feb. 50° to 55°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings

singly in 2-in. pots & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs. *Seedlings* are six to seven years before they flower.

Hippocrepis (Horse-shoe Vetch).—*Ord.* Leguminosæ. Hardy evergreen herb. *Nat.* Europe (Britain). *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; *Ap.* to *Aug.* *Soil*, ordinary. *Position*, sunny rockeries or elevated borders. *Plant*, *Mar.* or *Ap.* *Propagate* by seeds sown $\frac{1}{2}$ in. deep in fine soil in sunny position outdoors in *Mar.* or *Ap.*; division of roots in *Mar.*

Hippophae (Sea Buckthorn, Sallow-thorn).—*Ord.* Elæagnacæ. Hardy deciduous berry-bearing shrub. *Nat.* Europe (Britain), Asia, Himalayan Mountains. *Ht.* 3 to 15 ft. *Species* cultivated, 1; variety, 1. *Flowers*, yellow; *May.* *Berries*, orange; *autn.* & *winter.* *Soil*, ordinary. *Position*, open or shady shrubberies & inland or seaside gardens. *Plant*, *Oct.* to *Feb.* *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in *Nov.* or *Dec.*; by cuttings of roots inserted in *Feb.* or *Mar.* in ordinary soil outdoors; layering shoots in *autn.*

Hippuris (Mare's-tail).—*Ord.* Haloragacæ. Hardy aquatic perennial. *Orn.* foliage. *Nat.* Europe (Britain), Asia. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, green; *sum.* *Leaves*, narrow, strap-shaped; in circles round the stem. *Soil*, mud. *Position*, bogs, ponds, or damp places. *Plant*, *Mar.* to *June.* *Propagate* by division of roots, *Mar.*

Hips (*Rosa canina*)—see *Rosa*.

Hirst Beech (*Carpinus betulus*)—see *Carpinus*.

Hoffmania.—*Ord.* Rubiacæ. Stove orn. flowering plants. *Nat.* Jamaica, Mexico, S. America. *Int.* 1850. *Ht.* 6 in. to 4 ft. *Species* cultivated, 5. *Flowers*, white, yellow, red; *May* to *Aug.* *Leaves*, green, variegated with purple, red, creamy white, & yellow. *Compost*, two parts peat & one of sand & charcoal. *Position*, well drained pots in stove. *Pot*, *Feb.* or *Mar.* *Water* freely *Mar.* to *Sept.*, moderately afterwards. *Syringe* daily *Feb.* to *Sept.* *Temp.*, *Feb.* to *Aug.* 70° to 80°; *Aug.* to *Nov.* 65° to 75°. *Propagate* by cuttings of shoots 2 to 3 in. long inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75°, *Feb.* to *June.*

Hohenhacker's Bell-flower (*Campanula Hohenhackeri*)—see *Campanula*.

Hoary Azalea (*Azalea canescens*)—see *Azalea*.

Hoary German Madwort (*Alyssum semonense*)—see *Alyssum*.

Hoary Groundsel (*Senecio incanus*)—see *Senecio*.

Hoary Sea-Lavender (*Statice incana*)—see *Statice*.

Hoary Lavender-Cotton (*Santolina canescens*)—see *Santolina*.

Hoary Polypody (*Polypodium incanum*)—see *Polypodium*.

Hoary Rock-rose (*Cistus incanus*)—see *Cistus*.

Hoary Starwort (*Aster canescens*)—see *Aster*.

Hoary-leaved Alder (*Alnus incana*)—see *Alnus*.

Hoary-leaved Sun-rose (*Helianthemum canum*)—see *Helianthemum*.

Hole-wort (*Corydalis tuberosa*)—see *Corydalis*.

Holcus (Dart Grass, Hose Grass, Soft Grass, Midge Grass, Velvet Grass, Yorkshire Fog Grass, Variegated Fog Grass).—*Ord.* Graminacæ. Hardy orn. perennial grass. *Nat.* Europe (Britain), Asia, Africa. *Ht.* 6 to 18 in. *Species* cultivated, 1; variety, 1. *Leaves*, soft, woolly, green, variegated with silvery white. *Soil*, ordinary. *Position*, edgings to beds or borders, or in clumps in borders. *Plant*, *Oct.*, *Mar.* or *Ap.* *Propagate* by division of plants in *Oct.*, *Mar.* or *Ap.* Variegated kind only grown in gardens.

Holford's Sea-Lavender (*Statice Holfordi*)—see *Statice*.

Holm (*Ilex aquifolium*)—see *Ilex*.

Holm Oak (*Quercus ilex*)—see *Quercus*.

- Holy Ghost-flower** (*Peristeria elata*)—see *Peristeria*.
Holy Grass (*Hierochloë borealis*)—see *Hierochloë*.
Holy Hemp (*Galeopsis ladanum*)—see *Galeopsis*.
Holy Hoke (*Althæa rosea*)—see *Althæa*.
Holy Rose (*Andromeda polifolia*)—see *Andromeda*.
Holy Thistle (*Carduus benedictus* & *Silybum marianum*)—see *Carduus* & *Silybum*.
Hollyhock (*Althæa rosea*)—see *Althæa* in Appendix.
Hollyhock Mallow (*Malva alcea*)—see *Malva*.
Hollow-leaved Violet (*Viola cucullata*)—see *Viola*.
Hollow-root (*Corydalis tuberosa*)—see *Corydalis*.
Hollow-wort (*Corydalis tuberosa*)—see *Corydalis*.
Holly (*Ilex aquifolium*)—see *Ilex*.
Holly Fern (*Polystichum Lonchitis*)—see *Polystichum*.
Holly Oak (*Quercus ilex*)—see *Quercus*.
Holly-leaved Barberry (*Berberis aquifolius*)—see *Berberis*.
Holly-leaved Hellebore (*Helleborus argutifolius*)—see *Helleborus*.
Holly-leaved Lobelia (*Lobelia ilicifolia*)—see *Lobelia*.
Holly-leaved Oak (*Quercus gramuntia*)—see *Quercus*.
Holly-leaved Olive-tree (*Olea ilicifolia* & *Osmanthus ilicifolius*)—see *Olea* & *Osmanthus*.
Home-wort (*Sempervivum tectorum*)—see *Sempervivum*.
Honesty (*Lunaria biennis*)—see *Lunaria*.
Honey-balm (*Melittis melissophyllum*)—see *Melittis*.
Honey-plant (*Hoya carnosa*)—see *Hoya*.
Honeysuckle (*Lonicera periclymenum*)—see *Lonicera*.
Honeysuckle-leaved St. John's-wort (*Hypericum caprifolium*)—see *Hypericum*.
Hooded-leaved Elm (*Ulmus campestris cucullata*)—see *Ulmus*.
Hoodia.—*Ord.* Asclepiadaceæ. Greenhouse succulent plants. Flowering & orn. foliage. *Nat.* Karraoo, Orange River. *Int.* 1874. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, yellow, buff, flesh; June to Aug. *Stems*, cylindrical, prickly, leafless. *Compost*, equal parts sandy loam, old mortar, broken bricks & dry cow manure. *Position*, well drained pots, fully exposed to sun in warm greenhouse. *Repot* every three or four years in Feb. or Mar. *Water* moderately Mar. to Oct., keep quite dry Oct. to Mar. *Temp.*, Ap. to Sept. 65° to 75°; Sept. to Ap. 45° to 55°. *Propagate* by portions of fleshy stems 3 in. long cut clean at base & laid on sunny shelf to dry for several days, then insert in small well drained pots of sandy soil in temp. of 55° to 65°, Ap. to Aug.
Hooker's Barberry (*Berberis Hookeri*)—see *Berberis*.
Hooker's Catchfly (*Silene Hookeri*)—see *Silene*.
Hooker's Indian Crocus (*Pleione Hookeriana*)—see *Pleione*.
Hooker's Pitcher-plant (*Nepenthes Hookeriana*)—see *Nepenthes*.
Hook-leaved Side-saddle-flower (*Sarracenia variolaris*)—see *Sarracenia*.
Hook-spurred Violet (*Viola canina adunca*)—see *Viola*.
Hoopes's Helen-flower (*Helenium Hoopesi*)—see *Helenium*.
Hop (*Humulus lupulus*)—see *Humulus*.
Hop Oil-plant (*Humulus lupulus*)—see *Humulus*.
Hopes (*Matthiola incana*)—see *Matthiola*.
Hordeum (Squirrel-tail Grass, Bear Barley).—*Ord.* Graminaceæ. Hardy annual flowering grass. *Nat.* N. America. *Int.* 1782. *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Inflorescence*, barley-like, borne in spikes; June to

Sept.; very useful for cutting. *Soil*, ordinary. *Position*, open dryish borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar. or Ap. in borders where plants are required to flower.

Horizontal-branched Ash (*Fraxinus excelsior horizontalis*)—see *Fraxinus*.

Horizontal-branched Starwort (*Aster horizontalis*)—see *Aster*.

Horizontal Cypress (*Cupressus sempervirens horizontalis*)—see *Cupressus*.

Horminum (Pyrenean Dead-nettle).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* Pyrenees. *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, blue, purple; May to Aug. *Soil*, ordinary. *Position*, open well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar. or Ap.; by division of roots Oct. to Mar.

Hornbeam (*Carpinus betulus*)—see *Carpinus*.

Hornbeam-leaved Elm (*Ulmus carpinifolia*)—see *Ulmus*.

Horn-leaved Saxifrage (*Saxifraga ceratophylla*)—see *Saxifraga*.

Horned Orchis (*Ophrys cornuta*)—see *Ophrys*.

Horned Poppy (*Glaucium luteum*)—see *Glaucium*.

Horned Rampion (*Phyteuma orbiculare*)—see *Phyteuma*.

Horned Violet (*Viola cornuta*)—see *Viola*.

Horse Beech (*Carpinus betulus*)—see *Carpinus*.

Horse Chestnut (*Æsculus hippocastanum*)—see *Æsculus*.

Horse Gowan (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Horse Grain (*Dolichos biflorus*)—see *Dolichos*.

Horse-hoof (*Tussilago farfara*)—see *Tussilago*.

Horse Mint (*Monarda punctata*)—see *Monarda*.

Horse Radish (*Cochlearia armoracia*)—see *Cochlearia*.

Horse-tongue (*Scolopendrium vulgare* & *Ruscus hypoglossum*)—see *Scolopendrium* & *Ruscus*.

Horsfield's Daffodil (*Narcissus Horsfieldi*)—see *Narcissus*.

Hose-in-Hose Polyanthus (*Primula elatior* var.)—see *Primula*.

Host's Campanula (*Campanula Hosti*)—see *Campanula*.

Hoteia—see *Spiræa*.

Hottonia (Common Water Violet, Water Feather-foil, Water Gilliflower).—*Ord.* Primulacæ. Hardy aquatic perennial herb. *Nat.* Europe (Britain), Siberia. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, lilac, yellow; May to June. *Soil*, ordinary. *Position*, margins of ponds & rivulets or in bogs. *Plant*, Mar. or Ap. *Propagate* by seeds sown in muddy soil in shallow water in Mar. or Ap.; division of plants Mar. or Ap.

Houlletia.—*Ord.* Orchidacæ. Stove epiphytal orchids. Evergreen. *Nat.* Brazil, Columbia, New Grenada. *Int.* 1841. *Ht.* 1 to 2 ft. *Species* cultivated, 4; variety, 1. *Flowers*, yellow, chocolate, crimson, white, orange, brown, purple, fragrant; June to Sept. *Compost*, two parts fibrous peat, one part sphagnum. *Position*, baskets suspended from roof of stove. *Re-basket*, Feb. or Mar. *Water* abundantly Mar. to Sept., moderately Sept. to Mar. *Temp.*, May to Aug. 65° to 85°; Aug. to Nov. & Mar. to May, 60° to 70°; Nov. to May, 55° to 65°. *Propagate* by division of pseudo-bulbs when growth commences.

Hound-berry-tree (*Cornus sanguinea*)—see *Cornus*.

Hound's-tongue (*Cynoglossum alpinum*)—see *Cynoglossum*.

House Leek (*Sempervivum tectorum*)—see *Sempervivum*.

Houstonia (Bluets).—*Ord.* Rubiacæ. Hardy herbaceous perennials. *Nat.* N.W. America. *Int.* 1785. *Ht.* 3 to 4 in. *Species* cultivated, 2. *Flowers*, blue, white; May to Aug. *Soil*, leaf-mould & sand. *Position*, crevices,

nooks & crannies in moist rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in pans of leaf-mould & sand in cold frame in spring or autn.; division of roots in Sept. or Oct.

Hovea.—*Ord.* Leguminosæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1818. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, blue; Ap. to July. *Compost*, three parts peat, one part loam & little silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Nip* off points of young shoots in spring to induce bushy growth. *Water* freely Ap. to Sept., moderately Sept. to Ap. *Temp.*, Mar. to Sept. 55° to 65°, Sept. to Mar. 45° to 50°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots of sandy peat in temp. of 55° to 65° in Mar. or Ap.; cuttings inserted in sandy soil under bell-glass in temp. 55° Ap. to July.

Howea.—see Kentia.

Hoya (Honey-plant, Wax-flower-plant, Wax-flower-climber, Manilla Wax-flower, Imperial Wax-flower).—*Ord.* Asclepiadaceæ. Stove & greenhouse climbing flowering plants. Evergreen. *Nat.* N. S. Wales, India, Java, Manilla, Borneo, China. *Int.* 1802. *Ht.* 3 to 15 ft. *Species* cultivated, 8 stove, 1 greenhouse. *Flowers*, white, yellow, pink, crimson, purplish; Mar. to Nov. *Compost*, equal parts peat & loam, little charcoal & sand. *Position*, well drained pots, beds, or hanging baskets, with shoots trained round trellises, up rafters, or against walls, & fully exposed to the light. *Pot* or *plant*, Feb. or Mar. *Water* freely Mar. to Sept., moderately Sept. to Mar. *Temp.*, stove species, 65° to 75° Mar. to Oct., 55° to 65° Oct. to Mar.; greenhouse species, 55° to 65° Mar. to Sept., 45° to 55° Sept. to Mar. *Prune* into shape, Feb. *Foot stalks* of flowers should not be removed after blooming, as these will produce a second crop of flowers. *Propagate* by cuttings of shoots of preceeding year's growth inserted in well drained pots of sandy peat under bell-glass in temp. of 75° to 85° in Mar., Ap. or May; layering shoots in pots of sandy peat in spring or sum.; grafting (*H. bella* & *H. Paxtoni*) on *H. carnosa* in Mar. or Ap.

Huckle-berry (*Vaccinium myrtillus*)—see *Vaccinium*.

Hudsonia (American False Heath).—*Ord.* Cistaceæ. Half-hardy evergreen flowering shrubs. *Nat.* N. America. *Int.* 1805. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; May to July. *Compost*, two parts peat & one of sand. *Position*, well drained pots in unheated greenhouse, or outdoors June to Sept. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely Mar. to Oct., moderately afterwards. *Propagate* by cuttings of firm shoots 1 to 2 in. long inserted in well drained pots of silver sand under bell-glass in greenhouse, Ap. to Aug.; layering in Sept. & Oct.

Hudson's Bay Black Currant (*Ribes Hudsonianum*)—see *Ribes*.

Hudson's Bay Pine-tree (*Pinus Banksiana*)—see *Pinus*.

Huleh Lily (*Lilium martagon*)—see *Lilium*.

Humble-plant (*Mimosa pudica*)—see *Mimosa*.

Humboldt's Lily (*Lilium Humboldtii*)—see *Lilium*.

Humea (Amaranth Feathers).—*Ord.* Compositæ. Half hardy biennial. *Nat.* Australia. *Int.* 1800. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Flowers*, red, pink, crimson, borne in large, graceful, feathery panicles; June to Oct. *Greenhouse culture*: *Compost*, two parts sandy loam, half a part decayed manure, half a part charcoal & silver sand. *Position*, well drained pots in cold frame during sum.; airy greenhouse in winter & when in flower. *Pot*, Mar. *Water* freely Mar. to Oct., very little afterwards. *Syringing* unnecessary. *Temp.*, Oct. to Ap. 45° to 55°; Ap. to Oct. 55° to 65°. *Discard* plants after flowering. *Outdoor culture*: *Soil*, ordinary rich. *Position*, sunny well drained beds or borders. *Plant*, June. *Water* freely in dry weather. *Propagate* by seeds sown on surface of fine mould in well drained pots or pans, covering seeds slightly with fine soil, in July, in cold frame or greenhouse.

Humulus (Common Hop, Japanese Hop).—*Ord.* Urticaceæ. Hardy annual & perennial twining climbers. *Nat.* Europe (Britain), Asia, N. America, China, Japan. *Int.* (foreign species) date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, greenish yellow; July to Sept. Male blooms borne in axillary panicles, & female blooms in cones in clusters on separate plants; the latter form the hop of commerce, & are the most ornamental. *Culture of annual species*: *Soil*, ordinary rich. *Position*, sunny or shady walls, fences, trellises, arbors, or tree stumps. *Plant*, May or June. *Water* freely in dry weather. *This species* an excellent plant for covering unsightly objects rapidly in sum. *Culture of perennial species*: *Soil*, deep rich & well manured loam. *Position*, sunny walls, fences, arbors, trellises, tree stumps, or in open ground with shoots trained round poles. *Plant* singly in groups of three, or 6 or 12 in. apart in rows 4 to 5 ft. asunder, Feb. or Mar. *Top-dress* annually with decayed manure in Feb. or Mar. *Mulch* with decayed manure in Ap. *Water* freely in dry weather. *Gather* female flowers (hops) in Sept. for drying. *Cut down* plants in Oct. *Young* shoots 4 to 6 in. long form an excellent substitute for asparagus if gathered in spring. *Propagate* annual species by seeds sown $\frac{1}{2}$ in. deep in pots of ordinary soil in cool or heated greenhouse in Ap., or where plants are required to grow in May; perennial species by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors in Mar. or Ap.; division of roots in Mar. Annual species invariably sows itself after first year.

Hundred-leaved Grass (*Achillea millefolium*)—see *Achillea*.

Hundred-leaved Rose (*Rosa centifolia*)—see *Rosa*.

Hungarian Balsam-tree (*Pinus pumilio*)—see *Pinus*.

Hungarian Maple (*Acer obtusa*)—see *Acer*.

Hungarian Oak (*Quercus conferta*)—see *Quercus*.

Hungarian Pink (*Dianthus collinus*)—see *Dianthus*.

Hungarian Speedwell (*Veronica teucrium*)—see *Veronica*.

Hunnemannia.—*Ord.* Papaveraceæ. Half-hardy herbaceous perennial. *Nat.* Mexico. *Int.* 1827. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; July to Oct. *Soil*, ordinary rich. *Position*, sunny well drained border at base of south wall. *Plant*, Mar. *Protect* with cocoanut-fibre refuse, tan, or leaves in winter. *Propagate* by seeds sown in Ap. or Sept. where plants are required to grow, thinning seedlings out in spring or sum.

Huntingdon Elm (*Ulmus glabra vegeta*)—see *Ulmus*.

Huntingdon Willow (*Salix alba*)—see *Salix*.

Huntsman's Cup (*Sarracenia purpurea*)—see *Sarracenia*.

Huntsman's Horn (*Sarracenia flava*)—see *Sarracenia*.

Huon Pine-tree (*Dacrydium Franklini*)—see *Dacrydium*.

Hurst Beech (*Carpinus betulus*)—see *Carpinus*.

Hurt-sickle (*Centaurea cyanus*)—see *Centaurea*.

Hurtle-berry (*Vaccinium myrtillus*)—see *Vaccinium*.

Hutchinsia.—*Ord.* Cruciferae. Hardy alpine annual & perennial. *Nat.* C. & S. Europe (Britain). *Int.* (foreign species) 1775. *Ht.* 3 in. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, white; Mar. to June. *Soil*, sandy. *Position*, open sunny rockeries or margins of borders. *Plant*, Mar. or Ap. *Propagate* annual species by seeds sown & slightly covered with fine soil where plants are required to grow in Mar. or Ap.; perennial species by seeds sown similarly, or by division of plants in Mar. or Ap.

Hyacinth (*Hyacinthus orientalis*)—see *Hyacinthus*.

Hyacinth Bean (*Dolichos vulgaris*)—see *Dolichos*.

Hyacinth-scented Rose (*Rosa hyacinthina*)—see *Rosa*.

Hyacinthus (Amethyst Hyacinth, Spanish Hyacinth, Garden Hyacinth, Roman Hyacinth, Late-flowering Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. Deciduous. *Nat.* (Common Hyacinth) Syria.

Switzerland, Italy; (Roman Hyacinth) S. of France; (Spanish Hyacinth) S. Europe. *Int.* (Hyacinth) 1596; (Roman Hyacinth) date unknown; (Spanish Hyacinth) 1759. *Ht.* 4 to 12 in. *Species* cultivated, 2; sub-species, 2; varieties numerous. *Flowers*, all shades; winter & spring. *Culture of Common Hyacinths in Pots*: *Compost*, equal parts fibrous loam & well decayed manure, one-sixth river sand. *Position*, under cinder ashes in cold frame or outdoors Nov. to Feb.; afterwards in window or greenhouse. *Pot*, Nov. & Dec., placing one bulb half its depth in a 6-in. pot or three in an 8-in. pot. *Water* only when growth begins, & moderately afterwards. *Apply* liquid manure occasionally when flower spikes form. *After flowering*, plant bulbs outdoors. *Culture in Glasses*: Place bulbs in glasses so that base just touches water. *Time*, Nov. or Dec. *Water*, soft or rain, & little charcoal; add fresh as required. *Put* in dark position until roots form, then remove to light. No stimulant needful. *Plant* bulbs outdoors after flowering. *Culture in Beds*: *Soil*, ordinary, enriched with manure previous autn. *Position*, open sunny. *Plant* bulbs 3 to 4 in. deep & 8 in. apart, Nov. *Protect* surface of bed by covering of cocoanut-fibre refuse. *Apply* liquid manure once or twice when flower spikes appear. *Lift* & dry bulbs in June, storing them in cool place till planting time. *Culture of Roman Hyacinth*: *Compost*, as advised above. *Position*, pots under ashes in cold frame or outdoors till rooted, then in heated greenhouse or window. *Pot*, Aug., Sept. & Oct., placing one bulb in a 4-in. pot or three in a 5-in. pot. *Depth for planting*, 1 in. *Water* only when removed from the ashes, & moderately afterwards. *Temp.* when in greenhouse or window, 55° to 65°. *Bulbs* of no use after flowering. *Culture of Spanish Hyacinth*: *Soil*, light rich. *Position*, well drained sunny borders. *Plant*, Sept. or Oct. *Top-dress* annually with decayed cow manure in Feb. *Lift* & replant only when bulbs show signs of deterioration. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in boxes in cold frame or outdoors in Sept.; by offsets removed from old bulbs when lifted & planted 6 in. apart each way outdoors in Oct. *Seedling* bulbs flower when three years old, & attain full size when seven years old.

Hybrid Guinea Nightshade (*Solanum hybridum*)—see *Solanum*.

Hydrangæa.—*Ord.* Saxifragaceæ. Greenhouse & hardy flowering shrubby plants. Deciduous. *Nat.* China, Japan, Florida. *Int.* 1736. *Ht.* 2 to 6 ft. *Species* cultivated, 6; varieties, several. *Flowers* (enlarged calyces), white, rose, blue; Ap. to Sept. *Leaves*, egg-shaped, green or variegated with yellow or white. *Pot culture of H. hortensis*: *Compost*, two parts rich loam, one part well decayed manure & river sand. *Position*, cool greenhouse, frame, or room, Oct. to Mar.; heated greenhouse or warm window, Mar. to Oct. *Pot*, Feb. to Mar. *Water* abundantly Mar. to Oct., moderately Oct. to Mar. *Prune*, Aug. or Sept., cutting out all weak shoots & such as have flowered. *Flowers* borne on vigorous shoots of previous year's growth. *Best* blooms obtained on plants propagated by cuttings annually in Aug. *Apply* liquid or artificial manure frequently to plants showing flower. *Temp.* for early flowering (Jan. to May), 55° to 65°. *Outdoor culture of H. hortensis*: *Soil*, ordinary rich. *Position*, shady well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Prune* straggling or dead shoots in Mar. *Top-dress* annually with decayed cow manure. *Apply* liquid manure when in flower. *A good plant* for seaside gardens in S. & W. of England. *Pot culture of H. paniculata*: *Compost* as above. *Position*, cold frames, unheated greenhouses, or windows. *Pot*, Feb. or Mar. *Prune* previous year's shoots to within 1 in. of base in Jan. or Feb. *Water* freely Mar. to Oct., keep nearly dry Oct. to Mar. *Apply* liquid manure frequently when showing flower. *After flowering*, place in sunny position outdoors until Nov. *Outdoor culture of H. paniculata*: *Soil*, two parts rich turfy loam, one part decayed cow manure & river sand. *Position*, partially shaded, well drained bed or border. *Plant*, Oct., Nov. or Mar. *Top-dress* annually with decayed manure in Feb. or Mar. *Water* freely in dry weather. *Apply* liquid manure when flower buds appear. *Prune* as

advised for pot culture in Mar. *Culture of hardy species*: Soil, ordinary. *Position*, sheltered well drained borders. *Plant*, Oct. or Nov. *Prune* into shape, Feb. *Top-dress* annually with decayed manure. *Apply* liquid manure when in flower. *Blue flowers* may be obtained by planting in yellow loam, bog peat, or clay, or in a compost of five parts loam & one part iron filings, or by applying one of the following solutions: Dissolve a tablespoonful of alum in a gallon of soft water, & use 12 hours afterwards; one tablespoonful of saltpetre & half a tablespoonful of oxide of iron in three gallons of water, & use 24 hours afterwards. Apply both twice a week. *Propagate* by cuttings of young shoots inserted singly in 2 in. pots of light sandy soil under bell-glass in temp. 55° to 65° in Mar. or Ap.; cuttings of points of firm shoots 2 to 3 in. long inserted in well drained pots of sandy soil in cold frame in Aug.; by grafting on rooted cuttings or pieces of the soft thick roots of common species in a temp. of 65° to 70° in Feb., Mar. or Ap.; division of old plants in Mar.

Hydrastis (Ground Raspberry, Golden-seal, Orange-root, Turmeric-root).—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. *Nat.* N. America. *Int.* 1769. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, green, white; May to June. *Soil*, equal parts sandy loam & leaf-mould. *Position*, moist sheltered borders. *Plant*, Mar. *Propagate* by division of roots, Mar. or Ap.

Hydrocharis (Frog-bit).—*Ord.* Hydrocharidaceæ. Hardy aquatic perennial. *Nat.* Europe (Britain), N. Asia. *Stems* floating. *Species* cultivated, 1. *Flowers*, pale green, white; May to Aug. *Soil*, muddy. *Position*, shallow ponds, lakes or rivulets. *Plant*, Mar. or Ap. *Propagate* by creeping shoots detached from plant & inserted in mud under water in Mar. or Ap.

Hydropeltis.—*Ord.* Nymphaeæ. Hardy aquatic perennial. *Nat.* N. America. *Int.* 1798. *Species* cultivated, 1. *Flowers*, purple; June to Sept. *Leaves*, buckler-shaped, floating. *Soil*, muddy. *Position*, shallow tanks or ornamental ponds. *Plant*, June. *Propagate* by offsets planted in the water in June.

Hymenocallis.—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous plants. Evergreen & deciduous. *Nat.* Chili, Brazil, Mexico, Florida, W. Indies, Ecuador, Guiana. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 4 stove, 2 greenhouse. *Flowers*, white, fragrant; Feb. to Oct. *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly Ap. to Sept., moderately Sept. to Dec., keep quite dry Dec. to Mar. *Apply* liquid manure once or twice a week May to Sept. *Temp.* for stove species, 70° to 80° Mar. to Sept., 55° to 65° Sept. to Mar.; greenhouse species, 55° to 65° Ap. to Sept., 45° to 50° Sept. to Ap. *Propagate* by offsets removed from old bulbs in Mar. & treated as above.

Hymenodium (Elephant's-ear Fern).—*Ord.* Filices. Stove evergreen fern. *Nat.* W. Indies. *Int.* 1793. *Ht.* 9 to 18 in. *Species* cultivated, 1. *Fronds*, oblong, rounded. *Compost*, equal parts peat, loam, leaf-mould, silver sand & charcoal. *Position*, well drained pots in shade. *Pot*, Mar. *Water* freely Mar. to Oct., moderately other times. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by spores sown as advised for Hymenophyllum; division of plant at potting time.

Hymenophyllum (Tunbridge Fern, Filmy Fern, Tunbridge Goldilocks, Wilson's Filmy Fern).—*Ord.* Filices. Stove, greenhouse & hardy ferns. *Nat.* Britain, Australia, Trop. America, W. Indies. *Int.* (foreign species) 1824. *Ht.* 3 to 12 in. *Species* cultivated, 7 stove, 3 greenhouse, 2 hardy. *Fronds*, feathery, delicate, membranous. *Culture of stove & greenhouse species*: *Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Syringing* unsuitable. *Shade* most essential. *Temp.* for

stove species, 65° to 75° Mar. to Oct., 55° to 65° Oct. to Mar.; greenhouse species, 65° to 65° Mar. to Sept., 45° to 55° Sept. to Mar. *Culture of hardy species*: Compost as above. *Position*, deep moist shady frames, pits, caverns, or tubs; away from direct light & sunshine. *Plant*, Mar. *Water* freely in sun., moderately other times. *No syringing* required. *Protect* in severe weather. *Culture in cases in rooms*: Compost as above. *Position*, shady window, not exposed to sun. *Plant*, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely Ap. to Sept., moderately afterwards. *Ventilate* case few minutes daily. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Hyophorbe.—*Ord.* Palmaceæ. Stove palm. Orn. foliage. *Nat.* Rodriguez, Mauritius. *Int.* 1866. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Leaves*, feather-shaped, deep green. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, shady, moist. *Pot*, Feb. or Mar. *Water* abundantly Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 70° to 85°; Sept. to Mar. 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.

Hypericum (Aaron's Beard, Rose of Sharon, St. John's-wort, St. John's-grass, Tutsan).—*Ord.* Hypericaceæ. Hardy & half-hardy shrubs & herbaceous perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Africa, Levant, Siberia, Japan, N. America, Java, Nepaul. *Int.* (foreign species) 1543. *Ht.* 6 in. to 6 ft. *Species* cultivated, 15 shrubs, 7 perennials. *Flowers*, yellow; Ap. to Sept. *Culture of shrubby species*: Soil, ordinary. *Position* (*H. calycinum*) on banks & under shade of trees; others in sunny borders. *Plant*, Oct., Nov., Feb., Mar. *Prune* deciduous species into shape Feb.; evergreens in Ap. *Culture of perennial species*: Soil, ordinary, sandy. *Position*, sunny borders or rockeries. *Plant*, Oct. or Ap. *Cut* down stems in Oct. *Top dress* with decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil in sunny position outdoors in Mar.; shrubby species by cuttings of firm shoots 3 in. long inserted in sandy soil outdoors, Aug. or Sept.; perennials by division of roots in Ap. or Oct.

Hypoestes.—*Ord.* Acanthaceæ. Stove flowering perennials. Evergreen. *Nat.* S. Africa, Madagascar. *Int.* 1811. *Ht.* 6 to 36 in. *Species* cultivated, 2. *Flowers*, rose, purple, white; Feb. to May. *Compost*, equal parts loam, leaf-soil, & little sand. *Position*, well drained pots in sunny, cold frame June to Sept.; plant stove from Sept. to June. *Pot*, Mar. or Ap. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Prune* into shape after flowering. *Propagate* by cuttings of shoots inserted in small pots of sandy soil under bell-glass in temp. 75° to 85°, Feb. to May.

Hypolepis.—*Ord.* Filices. Stove, greenhouse, & hardy ferns. Evergreen. *Nat.* S. Africa, California, New Zealand, Australia, Trop. America. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 2 stove, 3 greenhouse, 1 hardy. *Fronde*s, feather-shaped. *Culture of stove species*: Compost, equal parts loam, leaf-mould & sand. *Position*, well drained pots in shady part of stove. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Syringing* undesirable. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Culture of greenhouse species*: Compost, as above. *Position*, well drained pans or beds in shade. *Pot*, Mar. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 55°. *Culture of hardy species*: Compost, as above. *Position*, shady sheltered bed or rockery. *Plant*, Ap. *Water* in dry weather. *Protect* with fern litter or straw in severe weather. *Propagate* by spores sown on surface of well drained pans of peat & leaf-mould under bell-glass in temp. 65° to 75° at any time; division of creeping rhizomes in Mar.

Hypoxis (American Star Grass).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. *Nat.* N. America, Cape of Good Hope, Natal, Algoa Bay.

Int. 1752. *Ht.* 6 to 18 in. *Species* cultivated, 5. *Flowers*, yellow, white, blue; *Ap.* to Aug. *Compost*, two parts peat, one of leaf-mould & sand. *Position*, well drained pots, or beds in cold frame. *Pot*, Aug. to Nov., covering pots with ciuder ashes in cold frame or greenhouse till growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually withhold it, keeping bulbs dry until growth recommences. *Temp.*, Sept. to Feb. 40° to 50°; 50° to 60° afterwards. *Propagate* by offsets, removed at potting time, & treated as old bulbs.

Hyssop (*Hyssopus officinalis*)—see Hyssopus.

Hyssop-leaved Loose-strife (*Lythrum hyssopifolium*)—see *Lythrum*.

Hyssop-leaved Starwort (*Aster hyssopifolius*)—see *Aster*.

Hyssopus (*Hyssopus*).—*Ord.* Labiatae. Hardy evergreen shrub. *Nat.* S. Europe, Asia. *Int.* 1548. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, blue, red, white; June to Sept. *Leaves*, narrow, aromatic. *Shoots* & flowers, infused in water, are largely used as an expectorant. *Soil*, ordinary, light. *Position*, dry, warm borders. *Plant*, Mar. to May, 12 in. apart each way. *Prune* into shape, *Ap.* *Propagate* by seeds sown $\frac{1}{4}$ in. deep outdoors in *Ap.*, transplanting seedlings in June or July; cuttings of shoots inserted in ordinary soil & shady position in *Ap.* or May; division of roots in Feb., Mar., Sept. or Oct.

Iberian Comfrey (*Symphytum ibericum*)—see *Symphytum*.

Iberian Crane's-bill (*Geranium ibericum*)—see *Geranium*.

Iberian Cyclamen (*Cyclamen ibericum*)—see *Cyclamen*.

Iberian Honeysuckle (*Lonicera iberica*)—see *Lonicera*.

Iberian Iris (*Iris iberica*)—see *Iris*.

Iberian Maple (*Acer ibericum*)—see *Acer*.

Iberian Stonecrop (*Sedum ibericum*)—see *Sedum*.

Iberidella (Round-leaved Bastard grass).—*Ord.* Cruciferae. Hardy evergreen herb. *Nat.* European Alps. *Int.* 1868. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, rose, lilac, yellow, fragrant; Mar. to May. *Soil*, rich gritty loam. *Position*, deep fissures on sunny rockeries. *Plant*, Mar. or *Ap.* *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans of light soil in cold frame in Mar. or *Ap.*, transplanting seedlings to rockery in June or July.

Iberis (Candytuft, Coris-leaved Candytuft, Late White Candytuft, Gibraltar Candytuft, Broad-leaved Candytuft, Evergreen Candytuft, Rocket Candytuft).—*Ord.* Cruciferae. Hardy annuals & evergreen shrubs. *Nat.* Europe (Britain). *Int.*, annual candytuft, 1596; shrubby candytuft, 1679. *Ht.* 6 to 12 in. *Species* cultivated, 7 perennials, 4 annuals, varieties many. *Flowers*, purple, white, crimson, pink, lilac, fragrant; Mar. to Oct. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep in patches or lines in Mar., *Ap.* or May for flowering in sum., Aug. or Sept. for spring flowering. *Thin* out seedlings to 2 in. apart in June. *Pot culture*: *Compost*, two parts good soil, one part decayed manure, leaf-mould & sand. *Size* of pots, 5 in. in diameter. *Sow* seeds $\frac{1}{2}$ in. deep in *Ap.* or May. *Place* pots in cold frame till June then stand outdoors. *Thin* seedlings to an inch apart in June. *Water* moderately. *Apply* weak liquid manure occasionally when flowers show. *Culture of shrubby species*: *Soil*, light sandy loam. *Position*, fissures or ledges of sunny rockeries or margins of well drained sunny borders. *Plant*, Oct., Mar. or *Ap.* *Propagate* annual species by seeds sown as above; perennial species by seeds sown $\frac{1}{2}$ in. deep in shallow boxes of sandy soil in cold frame in *Ap.*; cuttings of partially formed shoots, from 1 to 2 in. long, inserted in well drained pots in cold frame or in beds under handlight outdoors July to Oct.; division of roots Oct. or Mar.

Iceland Poppy (*Papaver nudicaule*)—see *Papaver*.

Ice Plant (*Mesembryanthemum crystallinum*)—see *Mesembryanthemum*.

Idesia.—*Ord.* Bixnaceæ. Hardy flowering & orn. foliage tree. Deciduous. *Nat.* Japan. *Int.*, date unknown. *Ht.* 10 to 15 ft. *Species* cultivated, 1; variety, 1. *Flowers* in panicles; male & female borne on separate trees; male flowers orange, female green. *Berries*, small, purplish black. *Leaves*, heart-shaped. *Soil*, ordinary, sandy. *Position*, well drained shrubberies. *Plant*, Oct. to Feb. *Prune* into shape after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 65° to 75° in Mar.; cuttings of firm shoots, 3 to 4 in. long, inserted in well drained pots of sandy soil under bell-glass in temp. 65° to 75° in Mar. or Sept.

Ilex (Holly, Christmas, Paraguay Tea).—*Ord.* Ilicinaceæ. Hardy & greenhouse evergreen shrubs. Orn. foliage. *Nat.* Europe (Britain), China, U.S. America, N. America, Japan, Canary Islands. *Int.* (foreign species) 1726. *Ht.* 6 to 20 ft. *Species* cultivated, 6 hardy evergreen, 1 hardy deciduous, 1 greenhouse. *Flowers*, greenish; May & June. *Berries*, red; autn. & winter. *Leaves*, dark green or variegated with white or yellow. *Culture of hardy species*: *Soil*, ordinary. *Position*, well drained shrubberies, banks, exposed slopes, etc., or near the sea. *Plant*, May or Sept. *Prune*, Sept. or Ap. *Hedge culture*: *Soil*, ordinary, trenched two spits deep & 3 ft. wide. *Plant* hollies (18 in. high) 18 in. apart, May or Sept. *Trim* into shape Ap. & Sept. *Pot culture*: *Soil*, ordinary. *Position*, window boxes, cold corridors, balconies & greenhouses. *Pot*, Sept. *Water* freely Mar. to Oct., moderately afterwards. *Heat unnecessary*. *Culture of greenhouse species*: *Soil*, two parts loam, one part peat & sand. *Position*, well drained pots exposed to full light. *Pot*, Mar. *Prune*, Feb. *Water* freely in sum., occasionally other times. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 50°. *Propagate* common species by seed (berries) gathered in Nov., buried in sand until following Oct., then sown 1 in. deep & 1 in. apart in ordinary soil outdoors, transplanting seedlings when two years old; variegated kinds by budding on common species in Aug.: grafting in Mar.

Illawarra Pine-tree (*Podocarpus spinulosa*)—see *Podocarpus*.

Illicium (Star Anise-tree, Star Aniseed-tree, Aniseed-tree of Florida, Poison-Bay of Alabama, Red-flowered Aniseed-tree).—*Ord.* Magnoliaceæ. Half-hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* China, Japan, Florida. *Int.* 1771. *Ht.* 3 to 8 ft. *Species* cultivated, 3. *Flowers*, red, yellow, white, fragrant; Ap. to Aug. *Leaves*, oblong; emitting odour of aniseed. *Compost*, equal parts sandy loam & peat. *Position*, sheltered shrubberies or against south walls S. of England, in pots in cold greenhouses or conservatories N. of England. *Plant* outdoors, Ap., Sept. or Oct. *Pot*, Oct. *Water* plants in pots freely in sum., moderately in winter. *Prune* into shape Ap. or May. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted in well drained pots of sandy soil under bell-glass in temp. of 65° to 65°, May to Aug.

Imantophyllum (Thong Lily, Natal Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering plants. Evergreen. *Nat.* Natal. *Int.* 1854. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties several. *Flowers*, reddish orange-yellow; Feb. to July. *Compost*, two parts good loam, one part decayed manure & sand. *Position*, well drained pots, sunny, close to glass in greenhouse. *Pot*, Feb. *Water* freely Mar. to July, very little afterwards. *Syringe* from Mar. to July. *Reputting* necessary every three or four years only. *Temp.*, Sept. to Feb. 65° to 65°; Feb. to Sept. 65° to 75°. *Top-dress* with compost of fibrous loam, leaf-mould, charcoal, & bone dust in Feb. or Mar. *Propagate* by seeds sown in light soil in temp. 75°, Mar.; division of roots at potting time.

Imbricated False Dragon's-head (*Physostegia imbricata*)—see *Physostegia*.

Immortelle-flower (*Helichrysum orientale*)—see *Helichrysum*.

Imou Pine-tree (*Dacrydium cupressinum*)—see *Dacrydium*.

Impatiens (Balsam, Hardy Indian Balsam, Yellow Balsam, Sultan's Balsam, Zanzibar Balsam).—*Ord.* Geraniacæ. Stove, greenhouse & hardy annuals & perennials. *Nat.* Asia, India, Europe (Britain), Zanzibar. *Int.* (foreign species) 1596. *Ht.* 2 to 10 ft. *Species* cultivated, 3 stove perennials, 1 greenhouse annual, 4 hardy annuals. *Flowers*, various; all the year round. *Culture of stove species*: Compost, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light part of stove Sept. to May, greenhouse June to Sept. *Pot*, Feb. or Mar. *Water* moderately Mar. to Sept., occasionally afterwards. *Temp.*, Oct. to Mar. 55° to 65°; Mar. to June, 65° to 75°. *Prune* into shape, Feb. *Culture of Balsam*: Sow seeds $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° in Mar. or Ap. *Transplant* seedlings singly into 2-in. pots when 1 in. high. *Compost*, equal parts loam, leaf-mould & sand. *Position*, near glass in greenhouse, not shaded. *Transfer* from 2-in. into 5-in., & thence into 6 & 8-in. pots. *Apply* liquid manure daily to plants showing flower. *Water* freely. *Temp.*, Mar. to June, 55° to 65°. *Outdoor culture*: *Plant*, June. *Soil*, ordinary. *Position*, sunny borders. *Culture of annual species*: Sow seeds $\frac{1}{2}$ in. deep in Ap. where plants are to grow. *Soil*, ordinary. *Position*, sunny borders. *Thin* seedlings to 6 in. apart when 1 in. high. *Propagate* stove species by seeds sown $\frac{1}{4}$ in. deep in light rich soil in temp. 65° in Mar.; by cuttings of side shoots inserted in small pots of light sandy soil in temp. 75° Mar. to Aug.

Imperati's Crocus (*Crocus Imperati*)—see *Crocus*.

Imperati's Snowdrop (*Galanthus Imperati*)—see *Galanthus*.

Imperforate St. John's-wort (*Hypericum dubium*)—see *Hypericum*.

Imperial Dahlia (*Dahlia imperialis*)—see *Dahlia*.

Imperial Wax-flower (*Hoya imperialis*)—see *Hoya*.

Incense-bearing Mexican Cypress (*Cupressus thurifera*)—see *Cupressus*.

Incense Juniper (*Juniperus religiosa*)—see *Juniperus*.

Incense Thyme (*Thymus thurifera*)—see *Thymus*.

Incencomparable Daffodil (*Narcissus incomparabilis*)—see *Narcissus*.

Incurved-leaved Saxifrage (*Saxifraga incurvifolia*)—see *Saxifraga*.

India-rubber Plant (*Ficus elastica*)—see *Ficus*.

India-rubber Tree (*Ficus elastica*)—see *Ficus*.

Indian Azalea (*Azalea indica*)—see *Azalea*.

Indian Autumn Daffodil (*Pancratium indica*)—see *Pancratium*.

Indian Corn (*Zea Mays*)—see *Zea*.

Indian Cotton-plant (*Gossypium indicum*)—see *Gossypium*.

Indian Cress (*Tropæolum majus*)—see *Tropæolum*.

Indian Crocus (*Pleione maculata*)—see *Pleione*.

Indian Cups (*Sarracenia purpurea*)—see *Sarracenia*.

Indian Currant (*Symphoricarpos vulgaris*)—see *Symphoricarpos*.

Indian Daphne (*Daphne indica*)—see *Daphne*.

Indian Eye (*Dianthus plumarius*)—see *Dianthus*.

Indian Fig Cactus (*Opuntia vulgaris*)—see *Opuntia*.

Indian Fig-tree (*Opuntia vulgaris*)—see *Opuntia*.

Indian Forget-me-not (*Quamoclit vulgaris*)—see *Quamoclit*.

Indian Ginger (*Asarum canadense*)—see *Asarum*.

Indian Grass (*Sorghum nutans* & *Molinia cærulea*)—see *Sorghum* & *Molinia*.

Indian Hawthorn (*Crataegus indica*)—see *Crataegus*.

Indian Heliotrope (*Heliotropium indicum*)—see *Heliotropium*.

Indian Ivy (*Monstera deliciosa*)—see *Monstera*.

Indian Kale (*Caladium nymphaeifolium* & *C. sagittæfolium*)—see *Caladium*.

Indian Lilac (*Lagerstræmia indica*)—see *Lagerstræmia*.

Indian Lotus (*Nymphaea pubescens*)—see *Nymphaea*.

Indian Mallow (*Abutilon globiflorum*)—see *Abutilon*.

Indian Moss (*Saxifraga hymnoides*)—see *Saxifraga*.

Indian Physic (*Gillenia trifoliata* & *Magnolia Fraseri*)—see *Gillenia* & *Magnolia*.

Indian Pimpernel (*Anagalis indica*)—see *Anagalis*.

Indian Pink (*Dianthus chinensis*)—see *Dianthus*.

Indian Plantain of North America (*Cacalia reniformis*)—see *Cacalia*.

Indian Poke (*Veratrum viride*)—see *Veratrum*.

Indian Reed (*Canna indica*)—see *Canna*.

Indian Rice (*Zizania aquatica*)—see *Zizania*.

Indian Saffron-plant (*Curcuma Zedoari*)—see *Curcuma*.

Indian Shamrock (*Trillium latifolium*)—see *Trillium*.

Indian Shell-flower (*Alpinia nutans*)—see *Alpinia*.

Indian Shot (*Canna indica*)—see *Canna*.

Indian Strawberry (*Fragaria indica*)—see *Fragaria*.

Indian Tobacco-plant (*Lobelia inflata*)—see *Lobelia*.

Indian Turnip (*Arum dracontium*)—see *Arum*.

Indian Yam (*Dioscorea trifida*)—see *Dioscorea*.

Indigo (*Indigofera tinctoria*)—see *Indigofera*.

Indigofera (*Indigo*, *Australian Indigo-plant*, *Dyer's Indigo-plant*, *Purple-flowered Indigo-plant*).—*Ord.* Leguminosæ. Stove, greenhouse & hardy flowering shrubs. Evergreen & deciduous. *Nat.* Australia, China, India, E. Indies. *Int.* 1731. *Ht.* 2 to 6 ft. *Species* cultivated, 2 stove, 6 greenhouse, 1 hardy. *Flowers*, red, rose, purple, pink; Mar. to Sept. *Leaves*, feather-shaped. *Culture of stove species*: *Compost*, equal parts turfy loam, leaf-mould & sand. *Position*, well drained pots or beds. *Pot or plant*, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Culture of greenhouse species*: *Compost*, as above. *Position*, large well-drained pots or in beds, with shoots trained up pillars or against walls. *Pot or plant*, Mar. *Prune* into shape, Mar. or Ap. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Stand plants* in sunny place outdoors June to Sept. *Culture of hardy species*: *Compost*, equal parts loam, leaf-mould & peat. *Position*, well drained bed or border, with shoots trained against S. wall. *Plant*, Oct. to Feb. *Prune* moderately after flowering, removing those shoots only that have flowered. *Propagate* by seeds sown ½ in. deep in well drained pots of sandy soil in temp. 75° to 85° in Feb. or Mar.; cuttings of firm young shoots 2 to 3 in. long inserted in pots of sandy peat under bell-glass in temp. 65° to 75° May to Sept.

Indigo-plant (*Baptisia tinctoria*)—see *Baptisia*.

Indigo-weed (*Baptisia tinctoria*)—see *Baptisia*.

Inflated Bladder-wort (*Utricularia inflata*)—see *Utricularia*.

Intermediate Crocus (*Crocus medius*)—see *Crocus*.

Intermediate Larkspur (*Delphinium intermedium*)—see *Delphinium*.

Intermediate Pitcher-plant (*Nepenthes intermedia*)—see *Nepenthes*.

Intermediate Red-root (*Ceanothus intermedius*)—see *Ceanothus*.

Intermediate Torch Lily (*Tritoma media*)—see *Tritoma*.

Inula (Flea bane, Georgian Flea-bane, Elecampane, Elf Dock, Horse Elder, Christ's-eye, Hoary Fleabane).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), India, Caucasus. *Int.* (foreign species) 1759. *Ht.* 2 to 4 ft. *Species* cultivated, 4. *Flowers*, yellow; June to Sept. *Soil*, ordinary rich. *Position*, moist sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems in Oct. *Topdress* with well decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in partially shady border outdoors in Ap.; division of roots, Oct. or Mar.

Involute-flowered St. John's-wort (*Hypericum involutum*)—see *Hypericum*.

Ionopsidium (Carpet-plant, Violet-flowered Cress).—*Ord.* Cruciferae. Hardy annual. *Nat.* Portugal. *Int.* 1845. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, lilac, white, violet; May to Sept. *Outdoor culture*: *Soil*, ordinary. *Position*, ledges of rockeries or as edgings to flower beds. *Sow* seeds where plants are to grow in Ap., just covering with fine mould. *Pot culture*: *Compost*, equal parts loam, leaf-mould & sand. *Position*, shady window, cold frame, or greenhouse. *Sow* seeds $\frac{1}{8}$ in. deep in 5-in. pot well drained and filled with above compost, in Ap. or Sept. *Thin* seedlings to 1 in. apart. *Water* moderately. *Apply* liquid manure occasionally when flower buds show.

Ionopsis.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Brazil. *Int.* 1865. *Ht.* 3 to 6 in. *Species* cultivated, 2. *Flowers*, white, rose, pink; May to Mar. *Compost*, sphagnum moss. *Position*, attached to blocks of wood suspended from roof. *Re-block*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Syringe* twice daily Feb. to Oct. *Temp.*, Oct. to Feb. 50° to 55°; Feb. to Oct. 60° to 70°. *Propagate* by division of plants at re-blocking time.

Ipomæa (American Bell-bind, Moon Creeper, Morning Glory, Ivy-leaved Cypress Vine, Star Glory).—*Ord.* Convolvulacæ. Stove, greenhouse & hardy perennial & annual climbers; perennials evergreen & deciduous. *Nat.* Peru, E. & W. Indies, U.S. America, Tropics, Panama, Mexico. *Int.* 1597. *Ht.* 6 to 20 ft. *Species* cultivated, 20 stove perennials, 2 stove annuals, 4 greenhouse perennials, 1 hardy perennial, 2 half-hardy & 1 hardy annual. *Flowers*, various; all the year round. *Culture of stove species*: *Compost*, equal parts fibrous loam, leaf-mould, decayed manure & silver sand. *Position*, pots, beds, or borders in stove; shoots trained up roof, or on trellises. *Pot or plant*, Feb., Mar. or Ap. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Water* freely Ap. to Sept., moderately afterwards. *Prune* straggly growths into shape, Feb. *Annuals*, sow three seeds $\frac{1}{2}$ in. deep in a 2½-in. pot in temp. 65° in Mar. *Transfer* seedlings when 2 in. high into 5-in. pots. *Train* shoots to trellis or sticks. *Culture of greenhouse species*: *Compost*, as above. *Position*, pots or beds in greenhouse; shoots trained up rafter or trellis. *Pot or plant*, Mar. *Prune*, Feb. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Water* freely in sum., moderately other times. *Culture of half-hardy annuals*: *Soil*, light rich. *Sow* seeds $\frac{1}{2}$ in. deep in pots in temp. 65° in Mar. *Transfer* seedlings to cold frame in May. *Plant*, June. *Position*, sunny walls or borders, shoots trained to trellis or to sticks. *Culture of hardy annual species*. *Soil*, ordinary. *Position*, sunny borders; shoots trained to trellis or sticks. *Sow* seed $\frac{1}{2}$ in. deep where plants are to grow, in Ap. *Culture of hardy perennial species*: *Soil*, ordinary. *Position*, sunny walls, fences or arbours. *Plant*, Oct. or Nov. *Propagate* annual species by seeds as above; perennials by cuttings of side shoots inserted in sandy peat under bell-glass in temp. 75° to 85°, Mar. to Aug., or grafting in Mar.

Ipomopsis (Standing Cypress).—*Ord.* Polemoniaceæ. Hardy biennials. *Nat.* California. *Int.* date unknown. *Ht.* 9 to 15 in. *Species* cultivated, 2. *Flowers*, scarlet, pink; May to Sept. *Soil*, ordinary. *Position*, warm sheltered beds or borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in pots of light

soil in temp. of 65° in Mar., planting seedlings outdoors in May or June; or similar depth outdoors where plants are required to grow in Sept.

Ipsaea.—*Ord.* Orchidaceæ. Stove terrestrial orchid. *Nat.* Ceylon. *Int.*, date unknown. *Ht.* 9 to 15 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; Nov. to Feb. *Compost*, equal parts loam & leaf-mould. *Position*, light part of stove. *Pot*, Feb. or Mar., in well drained pots. *Water* freely Mar. to Aug., moderately Aug. to Oct., very little afterwards. *Temp.*, Mar. to Sept. 60° to 65°; Sept. to Mar. 50° to 55°. *Propagate* by division of pseudo-bulbs after flowering.

Iraiba Palm (*Cocos oleracea*)—see *Cocos*.

Iresine (Blood-leaf).—*Ord.* Amaranaceæ. Stove & half hardy orn. foliaged plants. *Nat.* Brazil, Ecuador. *Int.* 1864. *Ht.* 12 to 15 in. *Species* cultivated, 2; varieties, several. *Leaves*, heart & lance-shaped; deep blood-red, carmine, green, golden, crimson. *Pot culture*: *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, sunny part of stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept., moderately other times. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Outdoor culture*: *Soil*, ordinary. *Position*, edgings to sunny beds or borders. *Plant*, June. *Lift*, repot, & remove to stove in Sept. *Pinch* off points of shoots frequently to induce bushy growth. *Propagate* by cuttings of young shoots inserted in pots or pans of light sandy soil in temp. of 65° to 75°, Feb., Mar., Ap., Sept. or Oct.

Iris (Flag, Rainbow-flower, Lady's Culamus, Blue Curls, Orrice, Orris root-plant, Fleur de Luce, Jacob's Sword, Water Flag, Pyrenean Flag, Lord Howe's Wedding Flower).—*Ord.* Iridaceæ. Hardy herbaceous perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Asia, U.S. America, China, Japan, India, N. America, N. Africa, Persia. *Int.* (foreign species) 1673. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 60 rhizomatous (creeping stemmed), 10 bulbous rooted; varieties innumerable. *Flowers*, various, fragrant; Jan. to Oct. *Culture of rhizomatous species*: *Soil*, sandy loam for *I. cristata*, *iberica*, *pumila*, *Susiana*, *tectorum*, *tridentata*, *virginica*, *aurea*, & *ochroleuca*; loam & peat for *I. Kämpferi*, *fulva*, *hexagona*, *setosa*, & *versicolor*; ordinary for *biflora*, *foetidissima*, *germanica*, *pallida*, *Monnieri*, *pseudo-acorus*, *ruthenica*, *siberica*, *spuria*, *graminea*, *stylosa*, *tuberosa*, *variegata*, *aphylla*, *chamæiris*, *flavescens*, *florentina*, & *squalens*. *Position*, shady near water for *foetidissimus* & *pseudo-acorus*; sunny dryish beds or borders for *I. alata*, *biflora*, *cristata*, *germanica*, *histrio*, *reticulata*, *iberica*, *pallida*, *ruthenica*, *spuria*, *graminea*, *Susiana*, *tridentata*, *tuberosa*, *variegata*, *aphylla*, *aurea*, *ochroleuca*, & *chamæiris*; sunny & moist beds for *foetidissima*, *Kämpferi*, *Monnieri*, *pseudo-acorus*, *siberica*, *tectorum*, *virginica*, *hexagona* & *setosa*. *Plant*, Sept. to Nov. or Mar.; rhizomes just beneath surface. *Top-dress* with well decayed cow manure in Oct. *Mulch* with similar material in Mar. *Apply* weak liquid manure to established plants in sum. *Annual* or periodical lifting unnecessary; best undisturbed. *Culture of bulbous-rooted species*: *Soil*, ordinary for *I. alata*; sandy loam for *I. pumila*, *persica*, *xiphion*, & *xiphoides*; loam & peat for *I. histrio* & *reticulata*. *Position*, sunny dryish beds or borders. *Plant* 3 in. deep & 6 in. apart, Sept. to Nov. *Protect* in winter with covering of leaf-mould or cocoanut-fibre refuse. *Lift* only when bulbs are not growing satisfactorily. *Top-dress* in Mar. with decayed manure. *Pot culture of bulbous species*: *Compost*, equal parts loam, peat, leaf-mould & sand. *Position*, cold frame until flowers appear, then remove to greenhouse. *Pot*, Oct., placing five bulbs 2 in. deep in a 5-in. pot. *Water* moderately from time growth begins until flowers fade, then keep quite dry. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame in autn.; by offsets removed in Oct. or Nov.; division of creeping stems in Sept. or Oct.

Irish Butter-wort (*Pinguicula grandiflora*)—see *Pinguicula*.

Irish Furze (*Ulex strictus*)—see *Ulex*.

Irish Heath (*Daboecia polifolia* & *Menziesia polifolia*)—see *Dab. varia* & *Menziesia*.

Irish Ivy (*Hedera helix canariensis* & *Hedera helix hibernica*)—see *Hedera*.

Irish Juniper (*Juniperus communis hibernica*)—see *Juniperus*.

Irish Lady's Tresses (*Spiranthes gemmipara*)—see *Spiranthes*.

Irish Polypody (*Polypodium hibernicum*)—see *Polypodium*.

Irish Rose (*Rosa hibernica*)—see *Rosa*.

Irish Spurge (*Euphorbia hibernica*)—see *Euphorbia*.

Irish Yew (*Taxus baccata fastigiata*)—see *Taxus*.

Isabella Grape (*Vitis labrusca*)—see *Vitis*.

Isle of Bourbon Tea-plant (*Angræcum fragrans*)—see *Angræcum*.

Ismene (Peruvian Daffodil).—*Ord.* Amaryllidaceæ. Stove & greenhouse bulbous plants. *Nat.* Chili, Peru, Ecuador, Brazil. *Int.* 1796. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, white, fragrant; Feb. to May. *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly Ap. to Sept., moderately Sept. to Dec., keep quite dry Dec. to Mar. *Apply* liquid manure once or twice a week May to Sept. *Temp.* for stove species, 70° to 90° Mar. to Sept., 55° to 65° Sept. to Mar.; greenhouse species, 55° to 65° Ap. to Sept., 45° to 50° Sept. to Ap. *Propagate* by offsets removed from old bulbs in Mar. and treated as above.

Isolepis (River-side Club Grass).—*Ord.* Cyperaceæ. Greenhouse perennial rush. *Orn.* foliage. *Nat.* Tropics. *Int.*, date unknown. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Leaves*, slender, round, drooping, deep green. *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, small pots arranged along front of staging, or in hanging baskets. *Pot*, Feb. or Mar. *Water* abundantly Mar. to Oct., moderately other times. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 45° to 55°. *Propagate* by division of plants in Mar.

Isopyrum.—*Ord.* Ranunculaceæ. Hardy herbaceous perennial. *Orn.* foliage. *Nat.* Europe. *Int.* 1759. *Ht.* 10 to 15 in. *Species* cultivated, 1. *Flowers*, white; Mar. to Ap. *Foliage* finely divided like that of maidenhair fern. *Soil*, ordinary. *Position*, sunny or shady rockery, bed or border. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{8}$ in. deep outdoors in Ap. or May; division of roots in Oct. or Nov.

Isotoma.—*Ord.* Campanulaceæ. Greenhouse & half-hardy herbaceous perennials. *Nat.* Australia, W. Indies. *Int.* 1752. *Ht.* 8 to 12 in. *Species* cultivated, 2; variety, 1. *Flowers*, blue, white; June to Oct. *Pot culture*: *Compost*, two parts sandy loam, one part well decayed manure & sand. *Position*, well drained pots in greenhouse Sept. to June; in sunny cold frame June to Sept. *Pot*, Mar. or Ap. *Water* freely Ap. to Sept., moderately other times. *Apply* liquid manure once or twice weekly when flower spikes show. *Outdoor culture*: *Soil*, ordinary rich. *Position*, sunny beds or borders. *Plant*, June. *Lift & place* in pots in greenhouse for the winter in Sept. *Propagate* by cuttings inserted in light sandy soil in temp. of 65° to 75° in Feb., Mar. or Ap.

Italian Alkanet (*Anchusa italica*)—see *Anchusa*.

Italian Corn-salad (*Valerianella eriocarpa*)—see *Valerianella*.

Italian Cypress (*Cupressus sempervirens*)—see *Cupressus*.

Italian Daisy (*Bellis hybrida*)—see *Bellis*.

Italian Iris (*Iris italica*)—see *Iris*.

Italian Maple (*Acer opulus*)—see *Acer*.

Italian May (*Spiræa filipendula*)—see *Spiræa*.

Italian Mulberry-tree (*Morus alba italica*)—see *Morus*.

Italian Oak (*Quercus esculus*)—see *Quercus*.

Italian Periwinkle (*Vinca acutiloba*)—see *Vinca*.

Italian Pimpernel (*Anagallis Monelli*)—see *Anagallis*.

Italian Senna-plant (*Cassia obovata*)—see *Cassia*.

Italian Starwort (*Aster Amellus*)—see *Aster*.

Italian Stone Pine-tree (*Pinus pinea*)—see *Pinus*.

Italian Sun-rose (*Helianthemum italicum*)—see *Helianthemum*.

Italian Yellow Jasmine (*Jasminum humile*)—see *Jasminum*.

Itea (Virginian Willow).—*Ord.* Saxifragaceæ. Hardy deciduous shrub. Orn. foliage & flowering *Nat.* N. America. *Int.* 1744. *Ht.* 5 to 6 ft. *Species* cultivated, 1. *Flowers*, white; July to Oct. *Soil*, peaty. *Position*, moist sheltered shrubberies. *Plant*, Oct. to Feb. *Prune* moderately after flowering. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil outdoors in Ap.; suckers removed in Oct. or Nov.; layering shoots in July or Aug.

Ivory Eryngo (*Eryngium eburneum*)—see *Eryngium*.

Ivory Thistle (*Silybum eburneum*)—see *Silybum*.

Ivy (*Hedera helix*)—see *Hedera*.

Ivy Grape-vine (*Vitis indivisa*)—see *Vitis*.

Ivy Gum-plant (*Hedera helix*)—see *Hedera*.

Ivy Saxifrage (*Saxifraga cymbalaria*)—see *Saxifraga*.

Ivy-leaved Campanula (*Campanula hederacea*)—see *Campanula*.

Ivy-leaved Cypress-vine (*Ipomœa hederacea coccinea*)—see *Ipomœa*.

Ivy-leaved Groundsel (*Senecio macroglossus*)—see *Senecio*.

Ivy-leaved Harebell (*Campanula hederacea*)—see *Campanula*.

Ivy-leaved Toad-flax (*Linaria cymbalaria*)—see *Linaria*.

Ivy-tree (*Panax Colensoi*)—see *Panax*.

Ivy-wort (*Linaria cymbalaria*)—see *Linaria*.

Ixia (African Corn Lily).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* S. Africa. *Int.* 1744. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 15; varieties many. *Flowers*, white, yellow, pink, red, green, lilac, rose, orange; fragrant; Ap. to Aug. *Outdoor culture*: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow manure. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar. 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Ixia Lily (*Ixiolirion tartaricum*)—see *Ixiolirion*.

Ixiolirion (*Ixia Lily*, Ledebour's *Ixia Lily*, Mountain *Ixia Lily*, Pallas's *Ixia Lily*, Tartarian *Ixia Lily*).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plants. *Nat.* Central Asia. *Int.* 1844. *Ht.* 12 to 18 in. *Species* cultivated, 2; varieties several. *Flowers*, blue, white; May to Sept. *Soil*, light sandy loam. *Position*, well drained sunny border at foot of S. wall. *Plant* bulbs 3 in. deep & 4 in. apart in Mar. *Mulch* surface of bed with cow manure in Ap. *After flowering*, cover with bell-glass or hand-light to ensure thorough ripening of bulbs. *Lift* bulbs in Sept. & store in dry sand in cool, frost-proof place till planting time. *Propagate* by offsets removed at any time, planted & treated as advised for normal bulbs.

Ixora (West Indian Jasmine).—*Ord.* Rubiaceæ. Stove flowering shrubs. Evergreen. *Nat.* India, E. Indies, Madagascar, China, Ceylon, Andaman Islands. *Int.* 1690. *Ht.* 3 to 6 ft. *Species* cultivated, 15; varieties many. *Flowers*, white, orange, red, scarlet, crimson, salmon, fragrant; Ap. to Oct. *Compost*, two parts good fibrous peat, one part fibrous loam & silver

sand. *Position*, shady part of stove whilst growing, light situation when at rest. *Pot*, Feb. or Mar.; good drainage indispensable. *Prune* into shape in Feb. *Water* freely Mar. to Sept., moderately afterwards. *Syringe* twice daily Mar. to Aug. *Apply* liquid manure once or twice a week to healthy plants in flower. *Temp.*, Mar. to Sept. 75° to 85°; Sept. to Mar. 55° to 65°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted singly in small pots in sandy peat under bell-glass in temp. 75° to 85°, Mar. to May.

Jaborosa.—*Ord.* Solanaceæ. Hardy herbaceous perennial. *Nat.* Buenos Ayres. *Int.* 1831. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, white, tubular, fragrant; May to Sept. *Soil*, rich loamy. *Position*, well drained border at base of S. wall. *Plant*, Oct. or Mar. *Protect* in winter with covering of ashes or litter. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in well drained pots in temp. 55° to 65° in Mar. or Ap.; cuttings of young shoots inserted in sandy soil under bell-glass, hand-light, or in cold frame, July to Sept.; division of creeping stems in Mar. or Ap.

Jaca (*Artocarpus integrifolia*)—see *Artocarpus*.

Jacaranda (*Mimosa*-leaved Ebony-tree, Green Ebony-tree).—*Ord.* Bignoniaceæ. Stove evergreen trees. Flowering & orn. foliage. *Nat.* Brazil, Mexico. *Int.* 1724. *Ht.* 1 to 20 ft. *Species* cultivated, 2. *Flowers*, blue, purple, borne in terminal pyramidal panicles, on large plants only; June to Sept. *Leaves*, fern-like, downy, very elegant. *Compost*, equal parts peat, fibry loam & silver sand. *Position*, well drained pots in light part of plant stove Sept. to Ap., sunny place outdoors July to Sept. *Pot*, Feb. to Mar. *Prune* into shape, Feb. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to July 70° to 80°. *Plants* form decorative specimens when 1 to 3 ft. high; flowering specimens when grown as standards, 10 to 15 ft. high. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy peat in well drained pots under bell-glass in temp. of 75° to 85°, Feb. to June; cuttings of firm shoots inserted in sandy peat under bell-glass in temp. of 75°, June to Sept.

Jacinth Hyacinth (*Hyacinthus orientalis*)—see *Hyacinthus*.

Jack-go-to-bed-at-noon (*Ornithogalum umbellatum*)—see *Ornithogalum*.

Jack-in-prison (*Nigella damascena*)—see *Nigella*.

Jack-in-the-green (*Primula vulgaris* var.)—see *Primula*.

Jack-tree (*Artocarpus integrifolia*)—see *Artocarpus*.

Jack-of-the-buttery (*Sedum acre*)—see *Sedum*.

Jackman's Clematis (*Clematis Jackmanni*)—see *Clematis*.

Jacobeia Lily (*Sprekelia formosissima* & *Amaryllis formosissima*)—see *Sprekelia* & *Amaryllis*.

Jacobinia.—*Ord.* Acanthaceæ. Stove flowering plants. *Nat.* S. America, Mexico. *Int.* 1770. *Ht.* 1 to 5 ft. *Species* cultivated, 4. *Flowers*, scarlet, orange, yellow, pink; Dec. to Feb. & Aug. to Oct. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*, Mar. or Ap. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to June 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to July.

Jacob's-ladder (*Polemonium cæruleum*)—see *Polemonium*.

Jacob's-staff (*Verbascum Thapsus*)—see *Verbascum*.

Jacob's-sword (*Iris pseudo-acorus*)—see *Iris*.

Jacob's-rod (*Asphodelus luteus*)—see *Asphodelus*.

Jacoby (*Senecio elegans*)—see *Senecio*.

Jacquemontia.—*Ord.* Convolvulaceæ. Stove flowering & twining plants. Evergreen. *Nat. Bogota, Mexico. Int.* 1808. *Ht.* 3 to 6 ft. *Species* cultivated, 2. *Flowers*, blue; June to Sept. *Compost*, equal parts fibrous loam, leaf-mould, decayed manure & sand. *Position*, pots, beds or borders in stove; shoots trained up roof or on trellises. *Pot or plant*, Feb., Mar. or Ap. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Water* freely Ap. to Sept., moderately afterwards. *Prune* straggly growths into shape, Feb. *Propagate* by cuttings of side shoots inserted in sandy peat under bell-glass in temp. 75° to 85°, Mar. to Aug.; grafting in Mar.

Jaggery Palm (*Caryota urens*)—see *Caryota*.

Jalap-plant (*Mirabilis jalapa*)—see *Mirabilis*.

Jalap-hop (*Ipomœa batatoides*)—see *Ipomœa*.

Jamaica Allspice (*Eugenia pimenta*)—see *Eugenia*.

Jamaica Bloodwood (*Gordonia hæmatoxylon*)—see *Gordonia*.

Jamaica Honeysuckle (*Passiflora aurifolia*)—see *Passiflora*.

Jamaica Mignonette (*Lawsonia alba*)—see *Lawsonia*.

Jamaica Mountain Sage (*Lantana aculeata*)—see *Lantana*.

Jamaica Pepper (*Eugenia pimenta*)—see *Eugenia*.

Jamaica Sarsaparilla-plant (*Smilax officinalis*)—see *Smilax*.

Jamaica Senna-plant (*Cassia marginata*)—see *Cassia*.

Jamaica Snapdragon (*Ruellia tuberosa*)—see *Ruellia*.

Jamaica Tree Fern (*Dicksonia dissecta*)—see *Dicksonia*.

Jamaica Wood-sorrel (*Begonia nitida*)—see *Begonia*.

Jamaica Zebra-wood (*Eugenia fragrans*)—see *Eugenia*.

Jamestown-weed (*Datura stramonium*)—see *Datura*.

James's Evening Primrose (*Oenothera Jamesi*)—see *Oenothera*.

James's Monkey-flower (*Mimulus Jamesi*)—see *Mimulus*.

Jam Furze (*Ulex nanus*)—see *Ulex*.

Japan Allspice (*Chimonanthus fragrans*)—see *Chimonanthus*.

Japan Cherry (*Cerasus japonica* & *Prunus japonica*)—see *Cerasus* & *Prunus*.

Japan Honeysuckle (*Lonicera japonica*)—see *Lonicera*.

Japan Hydrangea (*Hydrangea japonica*)—see *Hydrangea*.

Japan Juniper (*Juniperus japonica*)—see *Juniperus*.

Japan Laurel (*Aucuba japonica*)—see *Aucuba*.

Japan Lily (*Lilium lancifolium*)—see *Lilium*.

Japan Pink (*Dianthus Heddegi*)—see *Dianthus*.

Japanese Andromeda (*Andromeda japonica*)—see *Andromeda*.

Japanese Arbor-vitæ (*Biota orientalis* & *Thuja japonica*)—see *Biota* & *Thuja*.

Japanese Barberry (*Berberis japonica*)—see *Berberis*.

Japanese Box-tree (*Euonymus japonicus radicans*)—see *Euonymus*.

Japanese Celandine (*Stylophorum japonicum*)—see *Stylophorum*.

Japanese Climbing Bramble (*Rubus phœnicolasius*)—see *Rubus*.

Japanese Climbing Fern (*Lygodium scandens*)—see *Lygodium*.

Japanese Cypress (*Retinospora obtusa*)—see *Retinospora*.

Japanese Daphne (*Daphne japonica*)—see *Daphne*.

Japanese Groundsel (*Senecio japonicus*)—see *Senecio*.

Japanese Hare's-foot Fern (*Davallia Mariesi*)—see *Davallia*.

Japanese Lady's-slipper (*Cypripedium japonicum*)—see *Cypripedium*.

Japanese Maize (*Zea japonica*)—see *Zea*.

Japanese Maple (*Acer palmatum*)—see *Acer*.

Japanese Monk's-hood (*Aconitum japonicum*)—see *Aconitum*.

Japanese Oak (*Quercus glabra*)—see *Quercus*.

Japanese Ostrich Fern (*Struthiopteris japonica*)—see *Struthiopteris*.

Japanese Plum-tree (*Prunus japonica*)—see *Prunus*.

Japanese Primrose (*Primula japonica*)—see *Primula*.

Japanese Privet (*Ligustrum japonicum*)—see *Ligustrum*.

Japanese Rose (*Camellia japonica* & *Rosa rugosa*)—see *Camellia* & *Rosa*.

Japanese St. John's-wort (*Hypericum japonicum*)—see *Hypericum*.

Japanese Skull-cap (*Scutellaria japonica*)—see *Scutellaria*.

Japanese Snow-flower (*Deutzia gracilis*)—see *Deutzia*.

Japanese Speedwell (*Veronica longifolia subsessilis*)—see *Veronica*.

Japanese Spindle-tree (*Euonymus japonicus*)—see *Euonymus*.

Japanese Wind-flower (*Anemone japonica*)—see *Anemone*.

Japanese Yew-tree (*Taxus japonica*)—see *Taxus*.

Jasione (Sheep's-bit Scabious).—*Ord.* Campanulacæ. Hardy annual & herbaceous perennial plants. *Nat.* Europe (Britain). *Int.* (foreign species) 1787. *Ht.* 6 to 12 in. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, blue, white; May to Sept. *Culture of annual species*: *Soil*, ordinary. *Position*, well drained sunny beds or borders. *Sow seeds* $\frac{1}{8}$ in. deep in Ap. or Sept. where plants are to grow. *Culture of perennial species*: *Soil*, good light loam. *Position*, sunny well drained borders. *Plant*, Oct. or Mar. *Cut down flower stems*, Oct. *Mulch* with decayed manure in Ap. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light soil outdoors, Ap. to Sept.; division of roots, Oct. or Mar.

Jasmine (*Jasminum officinale*)—see *Jasminum*.

Jasmine-Box (*Phillyrea angustifolia*)—see *Phillyrea*.

Jasmine Nightshade (*Solanum jasminoides*)—see *Solanum*.

Jasminum (*Jasmine*, *Jessamine*, *Jonquil-scented Jasmine*, *Yellow Azorean Jasmine*, *White Azorean Jasmine*, *Common Yellow-flowered Jasmine*, *Common White Jasmine*, *Spanish Jasmine*, *Large-flowered Jasmine*, *Italian Jasmine*, *Winter-flowering Jasmine*, *Double-flowered Jasmine*, *Silver-leaved Jasmine*, *Golden-leaved Jasmine*, *Yellow Nepaul Jasmine*, *Austrian Jasmine*, *White-flowered Indian Jasmine*).—*Ord.* Oleacæ. Stove, greenhouse & hardy climbing & trailing flowering plants. Evergreen & deciduous. *Nat.* (*J. officinale*) India, Persia; (*J. nudiflorum*) China; (*J. sambac*) India; (*J. grandiflorum*) Himalayas; others, Azores, S. Europe, Madeira. *Int.* (*J. officinale*) 1548; (*J. sambac*) 1665; (*J. grandiflorum*) 1629; (*J. nudiflorum*) 1844. *Ht.* 3 to 20 ft. *Species* cultivated, 3 stove, 4 greenhouse, 6 hardy; varieties several, some variegated. *Flowers*, yellow, white, fragrant; sum. & winter. *Culture of stove species*: *Compost*, equal parts loam, peat & leaf-mould, with little sand. *Position*, well drained pots, with shoots trained to trellis or up rafters, or in beds or borders with shoots trained up walls or rafters. *Pot or plant*, Feb. or Mar. *Prune* moderately, Feb. *Water* freely Mar. to Oct., moderately Oct. to Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Syringe* daily from Mar. to Aug. *Culture of greenhouse species*: *Compost* as above. *Position*, beds or borders, with shoots trained up rafters or walls, or well drained pots in light part of greenhouse Sept. to June, sunny place outdoors June to Sept. *Pot or plant*, Feb. or Mar. *Prune* slightly, Feb. *Water* freely Mar. to Sept., moderately afterwards. *Temp.*, Sept. to Mar. 45° to 55°; Mar. to June 55° to 65°. *Culture of hardy species*: *Soil*, ordinary rich. *Position*, well drained borders at base of S. or S.W. walls. *Plant*, Oct., Nov., Feb. or Mar. *Prune* moderately after flowering, removing shoots that have flowered only. *Propagate* stove & greenhouse species by cuttings of firm shoots, inserted in well drained pots of sandy peat under bell-glass in temp. of 65° to 75°, Mar. to Sept.; hardy species by cut-

tings of shoots 3 to 6 in. long inserted in well drained pots of sandy soil in cold frame or in sheltered borders outdoors Sept. to Dec.; layering shoots near base of plants sum.; variegated kinds by budding on common species July or Aug.

Jatropha (Belly-ache Bush, Physic-nut, Spurge-nettle). — *Ord.* Euphorbiaceæ. Stove flowering plants. *Nat.* S. America. *Int.* 1696. *Ht.* 1 to 4 ft. *Species* cultivated, 4. *Flowers*, red, scarlet; May to Sept. *Compost*, equal parts fibry loam & peat, with little sand. *Position*, well drained pots, shady part of stove. *Pot.*, Feb. & Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Oct. 65° to 75°; Oct. to Mar. 55° to 65°. *Propagate* by cuttings of firm young shoots inserted in well drained pots of sandy soil in temp. of 75° to 85°, Ap. to Aug.

Jaundice-berry (*Berberis vulgaris*)—see *Berberis*.

Jaundice-tree (*Berberis vulgaris*)—see *Berberis*.

Java Lemon (*Citrus javanica*)—see *Citrus*.

Java Primrose (*Primula imperialis*)—see *Primula*.

Java Smooth Pitcher-plant (*Nepenthes levis*)—see *Nepenthes*.

Javanese Rhododendron (*Rhododendron javanicum*)—see *Rhododendron*.

Jeffersonia (Ground-squirrel Pea, Rheumatism-root, Twin-leaf). — *Ord.* Berberidaceæ. Hardy perennial herb. *Nat.* Tennessee. *Int.* 1792. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, white; Mar. to May. *Soil*, peaty. *Position*, shady edges of rockery or borders. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame July to Sept.; division of roots Oct. or Mar.

Jersey Elm (*Ulmus campestris*)—see *Ulmus*.

Jerusalem Artichoke (*Helianthus tuberosus*)—see *Helianthus*.

Jerusalem Cherry (*Solanum Pseudo-capsicum*)—see *Solanum*.

Jerusalem Cowslip (*Pulmonaria officinalis*)—see *Pulmonaria*.

Jerusalem Cross (*Lychnis chalcidonica*)—see *Lychnis*.

Jerusalem Sage (*Phlomis fruticosa*)—see *Phlomis*.

Jerusalem Star (*Cerastium tomentosum*)—see *Cerastium*.

Jessamine (*Jasminum officinalis*)—see *Jasminum*.

Jessamine-flowered Rhododendron (*Rhododendron jasminiflorum*)—see *Rhododendron*.

Jesuit's Nut (*Trapa natans*)—see *Trapa*.

Jew's Apple (*Solanum melongena*)—see *Solanum*.

Jew's Mallow (*Kerria japonica*)—see *Kerria*.

Jew's Myrtle (*Ruscus aculeatus*)—see *Ruscus*.

Job's-Drops (*Coix lachryma*)—see *Coix*.

Job's-Tears (*Coix lachryma*)—see *Coix*.

Jockey Grass (*Briza media*)—see *Briza*.

John Silver-pin (*Papaver rhæus fl. pl.*)—see *Papaver*.

Jointed Broom (*Genista sagittalis*)—see *Genista*.

Jonquil (*Narcissus jonquilla*)—see *Narcissus*.

Joseph's-Coat (*Amarantus tricolor*)—see *Amarantus*.

Jove's-Beard (*Anthyllis Barba-Jovis* & *Sempervivum tectorum*)—see *Anthyllis* & *Sempervivum*.

Joy-weed (*Alternanthera amœna*)—see *Alternanthera*.

Judas-tree (*Cercis siliquastrum*)—see *Cercis*.

Juglans (Walnut-tree, Butter-nut, American Walnut, Black Walnut, Ban-nut-tree, French Nut, Welsh Nut, Cut-leaved Walnut). — *Ord.* Juglandaceæ. Hardy deciduous nut-bearing & orn. foliage trees. *Nat.* (Walnut) Greece, Asia Minor, Persia, Himalaya; (Butter-nut) United States. *Int.* (Walnut) 1692; (Butter-nut) 1656; (Black Walnut) 1656. *Ht.* 10 to 60 ft.

Species cultivated, 3; *varieties*, 9. *Flowers*, green; Ap. to May. *Nuts*, globular or oval; ripe Sept. & Oct. *Leaves*, feather-shaped, dark green. *Culture of Walnut*: *Soil*, sandy & calcareous, or stiff loams on gravelly sub-soil. *Position*, S. or S.W., open, not shaded by trees or buildings. *Plant*, Oct. or Nov., placing roots 3 to 4 in. below surface of ground previously deeply trenched. *Pruning* unnecessary. *Apply* liquid manure to established trees from June to Oct., or $\frac{1}{2}$ lb. of superphosphate of lime to the square rod in June. *Gather* nuts for pickling before shell gets too hard. Ripe nuts place in thin layers in dry position till husks fall off, then pack in alternate layers with sand in barrels, casks, or jars sprinkled with salt. *Grafted* or budded trees bear earlier than seedlings. *Culture of orn. leaved species*: *Soil*, same as above. *Position*, open & sunny. *Plant*, Oct. to Feb. *Propagate* by seed (nuts) sown 2 in. deep in light soil outdoors in Nov., transplanting seedlings following Oct.; budding in Aug.; grafting in Mar.

July-flower (*Dianthus caryophyllus* & *Cheiranthus Cheiri*)—see *Dianthus* & *Cheiranthus*.

Jump-up-and-kiss-me (*Viola tricolor*)—see *Viola*.

June-berry (*Amelanchier canadensis*)—see *Amelanchier*.

Juncus (Rush).—*Ord.* Juncac. Hardy herbaceous perennial bog plants. Orn. foliage & flowering. *Nat.* Europe (Britain), Japan. *Int.* (foreign species) 1880. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Inflorescence*, grey, brown, borne in panicles; *sum.* *Leaves*, green, curiously twisted & variegated. *Soil*, boggy. *Position*, margins of ponds, lakes, cascades. *Plant*, Oct. or Mar. *Propagate* by division of roots Oct. or Mar.

Jungle-nail (*Acacia tomentosa*)—see *Acacia*.

Juniper (*Juniperus communis*)—see *Juniperus*.

Juniper Saxifrage (*Saxifraga juniperina*)—see *Saxifraga*.

Juniperus (*Juniper*, Barbados Cedar, Bermuda Cedar, Canadian Juniper, Irish Juniper, Alpine Juniper, Caucasian Juniper, Swedish Juniper, Hedge-hog Juniper, Prickly Cedar, Crimean Juniper, Carpet Juniper, Savin Juniper, Spanish Savin, Nepaul Juniper, Inseunce Juniper, Red Cedar, Golden Red Cedar, Silvery Red Cedar, Weeping Red Cedar, Chinese Juniper, Japanese Juniper, Phœnician Juniper, Shepherd's Juniper).—*Ord.* Coniferæ. Hardy evergreen orn. coniferous trees. *Nat.* Canada, Europe (Britain), Asia Minor, Japan, Afghanistan, India, China, N. America, Mexico. *Int.* (foreign species) 1548. *Ht.* 1 to 50 ft. *Species* cultivated, 21; *varieties*, about 20. *Habit*, pyramidal or bushy. *Leaves*, needle-shaped, narrow, scale-like, green or variegated. *Soil*, good ordinary. *Position*, open well drained shrubberies or lawns for erect species, rockeries or banks for dwarf species. *Plant*, Sept., Oct. or Nov. *Hedge culture*: *Soil*, ordinary, trenched two sps deep & 3 ft. wide. *Plant*, Sept. to Nov., 18 in. apart; *ht.*, 1 to 3 ft. *Junipers* form excellent screen trees. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in beds of light soil in cold frame in Ap., transplanting seedlings singly into small pots when 2 in. high & planting outdoors a year afterwards; cuttings of young branches inserted in sandy soil in cold frame or under handlight in Sept. or Oct.

Juno's-Rose (*Lilium candidum*)—see *Lilium*.

Juno's-Tears (*Verbena officinalis*)—see *Verbena*.

Jupiter's-Beard (*Anthyllis Barba-Jovis* & *Sempervivum tectorum*)—see *Anthyllis* & *Sempervivum*.

Jupiter's-Eye (*Sempervivum tectorum*)—see *Sempervivum*.

Jupiter's-Flower (*Lychnis Flos-Jovis*)—see *Lychnis*.

Justicia.—*Ord.* Acanthaceæ. Stove flowering & orn. foliage plants. *Nat.* India, Peru, China. *Int.* 1860. *Ht.* 6 to 13 ft. *Species* cultivated, 4. *Flowers*, pink, violet, lilac; June to Oct. *Leaves*, green or variegated with white. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light stove Sept. to June, sunny frame June to Sept. *Pot*,

Mar. or Ap. *Water* moderately Sept. to Mar., freely other times. *Temp.*, Sept. to Mar. 55° to 65°; Mar. to June, 65° to 75°. *P. une* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally May to Aug. to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in terr. 75° Mar. to July.

Kadsura.—*Ord.* Magnoliaceæ. Half-hardy trailing, flowering shrubs. Evergreen. *Nat.* Japan. *Int.* 1846. *Ht.* 3 to 7 ft. *Species* cultivated, 1; variety, 1; variegated. *Flowers*, white, solitary; June to Sept.; succeeded by scarlet berries. *Soil*, peaty. *Position*, well drained borders against S. or W. walls. *Plant*, Sept., Oct., or Ap. *Prune* straggling shoots moderately in Ap. *Propagate* by cuttings of firm shoots 2 to 3 in. long inserted in silver sand under bell-glass in cold greenhouse or frame, July to Oct.

Kæmpferia.—*Ord.* Scitamineæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Moulmein, Burmah, Cochin China. *Int.* 1728. *Ht.* 6 to 12 in. *Species* cultivated, about 7. *Flowers*, white, purple, yellow, violet, fragrant; July to Oct. *Leaves*, egg or lance-shaped, green bordered or flaked with white above and purple beneath. *Compost*, equal parts fibrous loam & peat with little silver sand & charcoal. *Position*, well drained pots in light part of stove during growing period; on their sides under staging in dry part of house during resting period. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; keep almost dry afterwards. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar., 55° to 60°. *Growing period*, Feb. to Oct. *Resting period*, Oct. to Feb. *Propagate* by division of root stocks in Feb.

Kæmpfer's Iris (*Iris Kæmpferi*)—see *Iris*.

Kaffir-bread (*Encephalartos horridus*)—see *Encephalartos*.

Kalanchoe.—*Ord.* Crassulaceæ. Greenhouse perennial flowering plants. *Nat.* Cape of Good Hope, India, Sierra Leone, Egypt. *Int.* 1781. *Ht.* 18 in. to 2 ft. *Species* cultivated, about 4. *Flowers*, pink, yellow, scarlet, fragrant; Aug. to Mar. *Compost*, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely, Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covered with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Kale (*Brassica oleracea acephala*)—see *Brassica*.

Kalmia (Calico Bush, American Laurel, Swamp Laurel, Mountain Laurel, Sheep's Poison Laurel).—*Ord.* Ericaceæ. Hardy evergreen flowering shrubs. *Nat.* Canada, Virginia, Carolina, Florida. *Int.* 1734. *Ht.* 1 to 10 ft. *Species* cultivated, 3; varieties, 4. *Flowers*, white, purple, crimson, rose; May to Aug. *Soil*, sandy peat & leaf-mould. *Position*, moist & cool, partially shaded. *Plant*, Sept., Oct., Ap., or May. *Pruning*, unnecessary. Foliage of *K. latifolia* poisonous to cattle. *Pot culture*: *Compost*, two parts sandy peat, one part leaf-mould & sand. *Position*, well drained pots in greenhouse (temp. 45° to 55°) from Nov. to May; sunny place outdoors afterwards. *Water* moderately in winter; freely other times. *Propagate* by seed sown in Ap. or Oct., $\frac{1}{4}$ in. deep, in well drained shallow pans of sandy peat in cold frame; cuttings of young shoots inserted in pots of sandy peat under bell-glass in shady cold frame Ap. to Aug.

Kalm's St. John's-Wort (*Hypericum Kalmianum*)—see *Hypericum*.

Kalosantes.—*Ord.* Crassulaceæ. Greenhouse shrubby flowering plants. Evergreen. *Nat.* Cape Colony. *Int.* 1710. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3. *Flowers*, scarlet, white, red, sometimes fragrant; Ap. to Sept.

Compost, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely Ap. to Aug., moderately Aug. to Nov., very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & repot when new shoots are 1 in. long. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap., seedlings to be kept close to glass & have little water; cuttings of shoots 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on greenhouse shelf & given very little water.

Kamtschatka Rhododendron (*Rhododendrom Kamtschaticum*)—see Rhododendron.

Kamtschatka Weeping Birch (*Betula tristis*)—see Betula.

Kangaroo Apple (*Solanum laciniatum*)—see Solanum.

Kangaroo Grape (*Vitis antarctica* or *Cissus antarcticus*)—see Vitis & Cissus.

Kangaroo Vine (*Cissus antarctica*)—see Cissus.

Karatas.—*Ord.* Bromeliaceæ. Stove flowering & orn. foliated plants. Evergreen. *Nat.* W. Indies, Brazil. *Int.* 1739. *Ht.* 1 to 2 ft. *Species* cultivated, about 9. *Flowers*, blue, crimson, orange, white, purple, pink, red, violet; Feb. to May. *Bracts*, green, red, or crimson. *Leaves*, strap-shaped, green above, purplish or whitish beneath, spiny. *Compost*, equal parts fibrous loam, rough peat, leaf-mould & silver sand. *Position*, well drained pots in light, moist part of stove. *Pot*, Feb. or Mar. *Water* moderately in winter, freely at other times. *Temp.*, Mar. to Sept. 70° to 80°; Sept. to Mar. 65° to 75°. *Propagate* by large-sized off-shoots inserted singly in small pots of sandy peat, in temp. of 85°, Feb. to Ap.

Kat Face-shrub (*Catha edulis*)—see Catha.

Kaufmann's Sea-Lavender (*Statice Kaufmanniana*)—see Statice.

Kaulfussia.—*Ord.* Compositæ. Hardy Annual. *Nat.* Cape of Good Hope. *Int.* 1819. *Ht.* 9 to 12 in. *Species* cultivated, 1; varieties, several. *Flowers*, white, scarlet, rose, violet; June to Oct. *Soil*, ordinary. *Position*, edgings to beds or borders or in masses in sunny borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors, in Ap. or June, where plants are required to grow.

Kawaka-tree (*Libocedrus Doniana*)—see Libocedrus.

Keg Fig-tree of Japan (*Diospyros Kaki*)—see Diospyros.

Kendal Green (*Genista tinctoria*)—see Genista.

Kenilworth Ivy (*Linaria cymbalaria*)—see Linaria.

Kennedya (Coral creeper. Australian Bean Flower).—*Ord.* Leguminosæ. Greenhouse flowering, twining plants. Evergreen. *Nat.* Australia. *Int.* 1788. *Ht.* 4 to 10 ft. *Species* cultivated, about 6; varieties, several. *Flowers*, scarlet, red; Mar. to Aug. *Compost*, equal parts peat & loam, little silver sand. *Position*, pots, with shoots trained to trellis, or planted out in beds, & shoots trained up rafters. *Pot or plant*, Feb. or May. *Water* freely Mar. to Sept., moderately at other times. *Prune* straggling plants into shape in Feb. Apply weak stimulants occasionally to healthy plants in flower. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of light sandy soil in temp. of 55° to 65° in Mar. or Ap.; cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 55° to 65°, Mar. to July.

Kentia (Umbrella Palm, Curly Palm, Earl Belmore's Palm). *Ord.* Palmacæ. Stove & greenhouse palms. *Nat.* New Guinea, Moluccas, Australia, New Zealand. *Int.* date unknown. *Ht.* 6 to 30 ft. *Species* cultivated, 9. *Leaves*, feather-shaped, graceful. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in stove or greenhouse, or in dwelling rooms during sum. *Pot*, Feb. or Mar. *Temp.* for stove species, 70° to 85°

Mar. to Sept.; 60° to 65°, **Sept. to Mar.**; for greenhouse & dwelling rooms, **Sept. to Mar.**, 45° to 55°; **Mar. to Sept.**, 55° to 65°. *Water* moderately, **Oct. to Feb.**; freely afterwards. *Apply* weak liquid manure to healthy plants once a week, **May to Sept.** *Syringe* plants grown in stove & greenhouse daily. *Sponge* leaves of those grown in dwelling rooms once weekly. *Propagate* by seeds sown 1 in. deep in light soil in temp. 80°. **Feb. or Mar.**

Kentiopsis.—*Ord.* Palmaceæ. *Stove Palms.* *Nat.* New Caledonia. *Int.* 1876. *Ht.* 6 to 30 ft. *Species* cultivated, 2; *Leaves*, feather-shaped. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in stove. *Pot*, **Feb. or Mar.** *Temp.*, 70° to 80°, **Mar. to Sept.**; 60° to 65°, **Sept. to Mar.** *Water* moderately, **Oct. to Feb.**; freely afterwards. *Apply* weak liquid manure to healthy plants once a week, **May to Sept.** *Syringe* daily. *Propagate* by seeds sown 1 in. deep in light soil in temp. 80°, **Feb. or Mar.**

Kentish Cherry (*Cerasus vulgaris*)—see *Cerasus*.

Kentucky Coffee-tree (*Gymnocladus canadensis*)—see *Gymnocladus*.

Keora Oil-plant (*Pandanus odoratissimus*)—see *Pandanus*.

Kermes Oak (*Quercus coccifera*)—see *Quercus*.

Kerria (*Jew's Mallow*).—*Ord.* Rosaceæ. *Hardy deciduous flowering shrub.* *Nat.* Japan. *Int.* 1700. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, orange yellow, single & double; spring & sum. *Leaves*, green or variegated with creamy white. *Soil*, good ordinary. *Position*, against S. or W. walls or fences. *Plant*, **Oct. to Mar.** *Prune* in May or June, cutting off old or weak shoots only. *Pot culture*: *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, **Oct.** *Place* in cold greenhouse & water moderately. *After flowering*, place plants in sunny position outdoors till **Oct.** *Forcing*, place plants in temp. 55° to 65° in Jan. *Water* moderately. *Transfer* plants to sunny position outdoors after flowering. *Propagate* by cuttings of young shoots 2 to 3 in. long, inserted in sandy soil under bell-glass or hand light or in cold frame in sum.; layering shoots in **Oct.**

Kerry Saxifrage (*Saxifraga affinis*)—see *Saxifraga*.

Ketmia (*Hibiscus africanus*)—see *Hibiscus*.

Khujjoor Palm (*Phoenix sylvestris*)—see *Phoenix*.

Khurjurah Palm (*Phoenix sylvestris*)—see *Phoenix*.

Kidbrook Elm (*Ulmus campestris virens*)—see *Ulmus*.

Kidney Bean (*Phaseolus vulgaris*)—see *Phaseolus*.

Kidney Cotton-plant (*Gossypium peruvianum*)—see *Gossypium*.

Kidney Fern (*Trichomanes reniforme*)—see *Trichomanes*.

Kidney-leaved Saxifrage (*Saxifraga Geum*)—see *Saxifraga*.

Kidney-wort (*Cotyledon umbilicus*)—see *Cotyledon*.

Killarney Fern (*Trichomanes radicans*)—see *Trichomanes*.

Kilmarneek Willow (*Salix Caprea*)—see *Salix*.

Kincairney Ash (*Fraxinus excelsior Kincairnia*)—see *Fraxinus*.

King Begonia (*Begonia Rex*)—see *Begonia*.

King Fern (*Osmunda regalis*)—see *Osmunda*.

King Pine-tree (*Abies Webbiana*)—see *Abies*.

King Plant (*Anæctochilus setaceus*)—see *Anæctochilus*.

King's Flower (*Eucomis regia*)—see *Eucomis*.

King's Feather (*Saxifraga umbrosa*)—see *Saxifraga*.

King's Spear (*Asphodelus lutea & A. ramosa*)—see *Asphodelus*.

Kiss-me (*Viola tricolor*)—see *Viola*.

Kiss-me-at-the-garden-gate (*Viola tricolor*)—see *Viola*.

Kiss-me-ere-I-rise (*Viola tricolor*)—see *Viola*.

Kitaibelia.—*Ord.* Malvaceæ. *Hardy perennial herb.* *Flowering & orn. foliage.* *Nat.* E. Europe. *Int.* 1801. *Ht.* 6 to 8 ft. *Species* cultivated,

1. *Flowers*, white, rose; *May* to Oct. *Foliage*, vine-like. *Soil*, ordinary. *Position*, open, large border or shrubbery. *Plant*, Oct. or Ap. *Propagate* by division of roots in Oct. or Ap.

Kleinia.—*Ord.* Compositæ. Half-hardy perennial. *Orn.* foliage; adapted for carpet bedding. *Nat.* Cape of Good Hope. *Int.* 1759. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Leaves*, cylindrical, fleshy, bluish grey. *Soil*, ordinary. *Position*, dry, in cool greenhouse, Oct. to May; sunny beds or borders outdoors, May to Oct. *Plant*, May. *Water* very little, Oct. to Mar., moderately afterwards. *Propagate* by division in Mar., placing plants in small pots in a temp. of 55°.

Knee Holly (*Ruscus aculeatus*)—see *Ruscus*.

Knee Pine-tree (*Pinus pumilis nana*)—see *Pinus*.

Knight's Star Lily (*Hippeastrum equestre*)—see *Hippeastrum*.

Kniphofia (Red-hot Poker Plant, Common Flame Flower, Torch Lily, Club Lily, Burchell's Torch Lily, Dwarf Torch Lily, Rooper's Torch Lily, Large Torch Lily).—*Ord.* Liliacæ. Hardy herbaceous perennials; flowering & orn. foliage. *Nat.* Tropical & S. Africa, Madagascar. *Int.* 1767. *Ht.* 1 to 4 ft. *Species* cultivated, about 16; varieties several. *Flowers*, scarlet, yellow, red, orange, salmon; Aug. to Nov. *Leaves*, green or bluish green, long & narrow. *Soil*, sandy, well enriched with manure. *Position*, sunny, well drained borders. *Plant*, Nov. or Ap. *Top-dress* annually in Ap. with well-decayed manure. *Water* freely in dry weather during spring & sum. *Apply* liquid manure once a week to established plants in sum. *Protect* in severe weather by covering of dry leaves or straw. *Propagate* by seeds sown $\frac{1}{2}$ in. d in sandy soil in shallow boxes in cold frame in Mar. or Ap.; transplanting seedlings outdoors when large enough to handle; division of roots in Nov. or Ap.

Knot-berry (*Rubus Chamæmoris*)—see *Rubus*.

Knotted Marjoram (*Origanum Marjorana*)—see *Origanum*.

Kœniga (Sweet Alyssum).—*Ord.* Cruciferae. Hardy annual. *Nat.* Europe (Britain). *Ht.* 6 to 9 in. *Species* cultivated, 1. *Flowers*, white, fragrant; May to Oct. *Soil*, ordinary. *Position*, edgings to beds, or in masses in borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap, June, or Sept., where plants are required to grow. *Pot Culture*: *Compost*, two parts good ordinary soil, one part leaf-mould or cocoanut-fibre refuse. *Position*, cold frame, greenhouse, or sunny window. *Water* moderately at first, freely afterwards. *Apply* stimulants when in bloom only. *Sow* seeds thinly $\frac{1}{4}$ in. deep, in 5 or 6 in. pots. *Thin* seedlings to $\frac{1}{2}$ in. apart when $\frac{1}{2}$ in. high.

Koelreuteria.—*Ord.* Sapindacæ. Hardy deciduous tree. Flowering & orn. foliage. *Nat.* N. China. *Int.* 1763. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow; June & July. *Leaves*, feather-shaped, graceful. *Soil*, ordinary. *Position*, open but sheltered. *Plant*, Oct. to Mar. *Pruning* unnecessary. *Propagate* by cuttings of young shoots, inserted in sandy soil under hand-light or in cold frame in Ap. or May; layering branches in Sept. or Oct.

Kohl Rabi (*Brassica Caulo-rapa*)—see *Brassica*.

Kolpakowsky's Tulip (*Tulipa Kolpakowskyana*)—see *Tulipa*.

Korolkow's Tulip (*Tulipa Korolkowi*)—see *Tulipa*.

Kotschy's Crocus (*Crocus Kotschyanus*)—see *Crocus*.

Kramer's Lily (*Lilium Krameri*)—see *Lilium*.

Kumquat (*Citrus japonica*)—see *Citrus*.

Labichea.—*Ord.* Leguminosæ. Greenhouse flowering shrub. *Nat.* Australia. *Int.* 1840. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, red; Ap. to Aug. *Compost*, equal parts peat, loam, & sand. *Position*, well-drained pots in light, sunny greenhouse. *Pot*, Mar. *Prune* into shape, Feb. *Water* moderately, Oct. to Ap.; freely afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Se. t. to Mar., 45° to 55°. *Requires* plenty of air, Ap. to Oct.

Propagate by cuttings of firm shoots inserted in sand, under bell-glass in cool greenhouse, June to Aug.

Labrador Mountain Avens (*Dryas tenella*)—see *Dryas*.

Labrador Tea-plant (*Ledum latifolium*)—see *Ledum*.

Laburnum (Golden Chain).—*Ord.* Leguminosæ. Hardy deciduous flowering trees. *Nat. S. Europe. Int.* 1596. *Ht.* 15 to 20 ft. *Species* cultivated, 1; varieties about 6. *Flowers*, yellow; *Ap.* to July. *Soil*, ordinary. *Position*, sunny shrubberies. *Plant*, Oct. to Mar. *Prune* directly after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar. or *Ap.*; by layers, Oct. or Nov.; varieties by grafting in Mar., or budding in July on common species. Strictly the common Laburnum is a species of *Cytisus*, which see.

Lace Fern (*Cheilanthes elegans*)—see *Cheilanthes*.

Lace-leaf Plant (*Ouvirandra fenestralis*)—see *Ouvirandra*.

Lachenalia (Cape Cowslip, Leopard Lily).—*Ord.* Liliaceæ. Greenhouse bulbous flowering plants. Deciduous. *Nat. S. Africa. Int.* 1752. *Ht.* 2 to 12 in. *Species* cultivated, about 20; varieties several. *Flowers*, white, red, lilac, yellow, blue, purple, green, violet, fragrant; Feb. to June. *Leaves* of some species spotted purple. *Compost*, two parts fibrous sandy loam, half part leaf-mould, half part decayed cow manure, & one part river or coarse silver sand. *Position*, well drained pots, pans, or baskets; light. *Pot*, Aug., placing 6 bulbs $\frac{1}{2}$ in. deep in a 5-in. pot, or 1 to 2 in. apart in pans or baskets. *After* potting, water & place pots in cold frame until Nov.; then remove to airy shelf in greenhouse. *Temp.*, 45° to 65°. *Water* moderately when growth begins; freely when well advanced. *Apply* weak stimulants occasionally when flower spikes form; discontinue when in bloom. *After* flowering gradually withhold water, place pots in sunny position outdoors, & keep quite dry to ripen bulbs. *Growing period*, Sept. to June; *resting period*, June to Sept. *Forcing* (*L. tricolor*): *Pot*, & treat as above until Nov., then remove into temp. of 55° to 65°. *Propagate* by offsets removed & placed in separate pots at potting time.

Lactuca (Flowering and Edible Lettuce).—*Ord.* Compositæ. Hardy border perennials & salad vegetables (annual). *Nat.* (flowering lettuce) Europe, Siberia, Tauria, & Himalayas; (edible lettuce) uncertain, but probably Asia. *Int.* (edible lettuce) 1562. *Ht.* (perennials) 1 to 3 ft. *Species* cultivated, about 5 perennials; varieties only of edible lettuce. *Flowers*, blue, yellow; May to Oct. *Culture of flowering lettuce* (perennials): *Soil*, sandy loam. *Position*, open, sunny, dryish border. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in *Ap.*; division of roots in Mar. *Culture of edible lettuce*: *Soil*, light, rich, deeply dug, well manured. *Position*, South borders for spring & winter crops; open, sunny for summer crops. *Sow seeds* $\frac{1}{2}$ in. deep in light soil in temp. 65° in Jan., Feb., or Mar., for planting outdoors in Mar., *Ap.*, & May; in bed of rich soil in sunny spot outdoors in Mar., *Ap.*, May, & June, for planting out in *Ap.*, May, June, & July; outdoors in Aug. & Sept., for planting out in Sept. & Oct.; in cold frames in Oct., for planting out in Mar. *Plant*, 10 in. apart in rows 12 in. asunder. *Blanch* cos varieties by tying bast round outside a week before required for use. *Surround* each newly planted seedling with a cordon of soot or lime. *Water* freely when first planted, if weather dry. *Cabbage* varieties best for poor dry soil; cos for heavy & rich soil. *Suitable artificial manures*: Superphosphate of lime applied before planting at the rate of 1½ lb. per square rod; nitrate of soda, when plants begin to grow freely, at rate 1½ lb. to square rod—apply latter in showery weather. *For producing seed*, plant in poor soil in *Ap.* or May. *Seed* retains vegetative powers for four years; best hearts produced by plants grown from two-year old seed. *Winter lettuce* ought to be grown in cold frames during winter, & planted out in Mar.

Ladanum Gum Cistus (*Cistus ladaniferus*)—see *Cistus*.

Ladanum Gum-plant (*Cistus ladaniferus*)—see *Cistus*.

- Ladder Fern** (*Nephrolepis exaltata*)—see *Nephrolepis*.
Ladder-to-Heaven (*Polygonatum multiflorum* & *Polemonium caeruleum*)—see *Polygonatum* & *Polemonium*.
Ladies' Fox Glove (*Verbascum Thapsus*)—see *Verbascum*.
Ladies'-laces Grass (*Phalaris arundinacea variegata*)—see *Phalaris*.
Lad's-love (*Artemisia Abrotanum*)—see *Artemisia*.
Lady Auckland's Daphne (*Daphne Aucklandiae*)—see *Daphne*.
Lady Bank's Rose (*Rosa Banksiae*)—see *Rosa*.
Lady-Birch (*Betula alba*)—see *Betula*.
Lady Dalhousie's Rhododendron (*Rhododendron Dalhousianum*)—see *Rhododendron*.
Lady Fern (*Athyrium Felix-fœmina*)—see *Athyrium*.
Lady Grass (*Phalaris arundinacea variegata*)—see *Phalaris*.
Lady-in-the-Bower (*Nigella damascena*)—see *Nigella*.
Lady-of-the-Meadow (*Spiræa ulmaria*)—see *Spiræa*.
Lady Orchis (*Orchis purpurea*)—see *Orchis*.
Lady-Poplar (*Populus fastigiata*)—see *Populus*.
Lady's Bower (*Clematis vitalba*)—see *Clematis*.
Lady's-Calamus (*Iris cristata*)—see *Iris*.
Lady's-Cushion (*Arabis albida* & *Armeria maritima*)—see *Arabis* & *Armeria*.
Lady's Garters (*Phalaris arundinacea variegata*)—see *Phalaris*.
Lady's-Hair (*Briza media*)—see *Briza*.
Lady's-Looking-glass (*Campanula speculum*)—see *Campanula*.
Lady's-Pincushion (*Armeria maritima*)—see *Armeria*.
Lady's-Seal (*Polygonatum multiflorum*)—see *Polygonatum*.
Lady's-Signet (*Polygonatum multiflorum*)—see *Polygonatum*.
Lady's-Slipper (*Cypripedium calceolus*)—see *Cypripedium*.
Lady's-Thimble (*Campanula rotundifolia*)—see *Campanula*.
Lælia.—*Ord.* Orchidaceæ. Stove orchids. Evergreen. *Nat.* Brazil, Mexico. *Int.* 1831. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 30; varieties numerous. *Flowers*, white, purple, lilac, rose, scarlet, orange, red, magenta, crimson, brown, yellow, fragrant; Jan. to Dec. *Compost*, two parts coarse fibrous peat, one part living sphagnum moss, charcoal, & sand. *Position*, pots, pans, or hanging baskets, or on blocks with moss only. *Pot* or reblock, Feb. or Mar. *Fill* pots $\frac{1}{2}$ with broken crocks, & keep plants well above rim of pot. *Secure* plants & moss to blocks by means of copper wire. *Water* pot & basket plants three times weekly, Mar. to Aug.; once weekly, Aug. to Nov. & Feb. to Mar.; once a month other times. *Plants* on blocks daily, Mar. to Aug.; & twice a week, Aug. to Nov. & Feb. & Mar.; once a week other times. *Syringe* freely in sum. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.
Lagenaria (Bottle Gourd, Trumpet Gourd).—*Ord.* Cucurbitaceæ. Hardy orn. fruiting annual. *Nat.* Trop. Asia & Africa. *Int.* 1597. *Ht.* 3 to 10 ft. *Species* cultivated, 1; varieties several. *Flowers*, yellow. *Fruit*, oblong, bottle-like, 1 to 6 ft. long. *Soil*, rich ordinary. *Position*, beds at foot of low sunny walls, fences, or arbours, or on the summit of sunny banks, shoots growing at will. *Plant*, June. *Water* freely, & apply stimulants when fruit has formed. No pinching of shoots required. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° to 65° in Ap.
Lagerstromia (Cape Myrtle, Indian Lilac, Queen's Flower).—*Ord.* Lythraceæ. Stove & greenhouse evergreen flowering shrubs. *Nat.* China, E. Indies. *Int.* 1792. *Ht.* 6 to 12 ft. *Species* cultivated, 2; variety, 1. *Flowers*, rose, purple, pink, white; May to Aug. *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots in light part of greenhouse or stove. *Pot*, Feb. or Mar. *Prune*, slightly in Oct. or Nov. *Water* freely,

Mar. to Oct.; very little Oct. to Mar. *Syringe* twice daily, Mar. to Sept. Temp.: Stove species, 55° to 60°, Oct. to Mar.; 65° to 75°, Mar. to Oct.; greenhouse species, Oct. to Mar., 45° to 55°; Mar. to Oct., 60° to 70°. *Propagate* by cuttings of firm side shoots, inserted in sandy peat, under bell-glass in temp. of 70° to 80° in Mar., Ap., Aug., or Sept.

Lagurus (Hare's-Tail Grass, Turk's Head Grass).—*Ord.* Graminaceæ. Hardy orn. annual grass. *Nat.* S. & W. Europe (Britain). *Ht.* 10 to 12 in. *Species* cultivated, 1. *Inflorescence* borne in egg-shaped heads, white, downy; June to Sept. Very useful in dried state for winter decorations. *Soil*, ordinary. *Position*, open dryish borders. *Gather* inflorescence for drying in Aug. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap. where plants are required to grow, or in well drained pans of light soil in cold frame in Oct., planting outdoors in Ap.

Lamarckia.—*Ord.* Graminaceæ. Hardy orn. annual grass. *Nat.* S. Europe, N. Africa. *Int.* 1770. *Ht.* 6 to 8 in. *Species* cultivated, 1. *Inflorescence* plume-like, silky & golden; June to Sept. Useful in a dried state for winter decorations. *Soil*, ordinary. *Position*, patches in open sunny borders. *Gather* inflorescence for winter use in Aug. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap. where plants are required to grow, or in well drained pans of light soil in cold frame in Oct., planting outdoors in Ap.

Lambertia.—*Ord.* Proteaceæ. Greenhouse evergreen flowering shrub. *Nat.* Trop. Australia. *Int.* 1788. *Ht.* 4 ft. *Species* cultivated, 1. *Flowers*, red; July to Sept. *Compost*, equal parts sandy loam, fibrous peat with little charcoal & sand. *Position*, well drained pots in light, airy greenhouse. *Pot*, Mar. *Prune* straggling shoots into shape only in Feb. *Water* moderately, Sept. to Mar.; freely afterwards. *Ventilate* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Propagate* by cuttings of young side shoots, inserted in sandy peat under bell-glass in temp. of 55° to 65° in Mar. or Ap., or by cuttings of firm shoots, inserted in similar soil & position in temp. 55° in Aug. or Sept.

Lamb-kill (*Andromeda Mariana* & *Kalmia angustifolia*)—see *Andromeda* & *Kalmia*.

Lamb's-chop (*Mesembryanthemum agninum*)—see *Mesembryanthemum*.

Lamb's-ear (*Stachys germanica*)—see *Stachys*.

Lamb's-Lettuce (*Valerianella olitoria*)—see *Valerianella*.

Lamp-wick (*Phlomis Lychnites*)—see *Phlomis*.

Lamium (Balm-leaved Dead-Nettle, Weasel's Snout, Golden Dead-Nettle, Yellow Archangel, Spotted Dead-Nettle, Variegated Dead-Nettle).—*Ord.* Labiatæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia, Africa. *Ht.* 6 to 15 in. *Species* cultivated, 2; varieties, 2. *Flowers*, yellow, purple; May to Sept. *Leaves*, egg or heart-shaped, with serrated margins, golden, bronze, green, & white. *Soil*, ordinary. *Position*, dryish, sunny borders. *L. aureum* very effective dwarf-edging plant for borders in sum. *Plant*, Oct. or Ap. *Propagate* by division of roots, Oct. or Mar.

Lance-fronded Spleen-wort (*Asplenium lanceolatum*)—see *Asplenium*.

Lance-leaved Blanket-Flower (*Gaillardia lanceolata*)—see *Gaillardia*.

Lance-leaved Saxifrage (*Saxifraga lanceolata*)—see *Saxifraga*.

Lance-leaved Tick-seed (*Coreopsis lanceolata*)—see *Coreopsis*.

Lance-leaved Violet (*Viola lanceolata*)—see *Viola*.

Land Cress (*Barbarea præcox*)—see *Barbarea*.

Lantana (Jamaica Mountain Sage, Surinam Tea-plant).—*Ord.* Verbenaceæ. Greenhouse & half-hardy evergreen flowering shrubs. *Nat.* Jamaica, Monte Video, W. & E. Indies. *Int.* 1690. *Ht.* 1 to 6 ft. *Species*

cultivated, about 6; varieties numerous. *Flowers*, red, orange, white, purple, brown, scarlet, chocolate, yellow, rose, pink, lavender, violet; May to Nov. *Pot culture*: *Compost*, two parts loam, one part peat, leaf-mould, or decayed manure, little sand, & charcoal. *Position*, well drained pots in light greenhouse. *Pot*, firmly, Mar. *Water* freely, Ap. to Oct.; moderately, Oct. to Ap. *Prune* into shape, Feb. *Temp.*, Oct. to Mar., 45° to 55°; Mar. to Oct., 55° to 65°. *Apply* weak stimulants once or twice weekly, May to Sept. *Outdoor culture*: *Soil*, rich sandy. *Position*, sunny dryish beds or borders. *Plant*, June. *Lift* in Sept.; repot & replace in greenhouse for winter. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans of sandy peat & leaf-mould, in temp. of 70° to 80° in Feb., Mar., or Ap.; by cuttings of firm shoots 2 to 3 in. long inserted in small pots of sandy peat under bell-glass in temp. of 55° to 65° in Aug. or Sept.; or by cuttings of young side shoots 2 in. long inserted as above in temp. 60° to 70°, Mar. or Ap.

Lantern-flower (*Abutilon Darwini*)—see *Abutilon*.

Lapageria.—*Ord.* Liliaceæ. Greenhouse & half-hardy flowering climber. Evergreen. *Nat. Chili.* *Int.* 1847. *Ht.* 15 to 30 ft. *Species* cultivated, 1; varieties several. *Flowers*, rose, crimson, white; all the year round. *Indoor culture*: *Compost*, three parts fibrous peat, one part loam, one part equal proportions of sand & charcoal. *Position*, shady in large well drained pots, tubs, beds, or borders, with shoots trained to trellises or up walls or rafters of greenhouse. *Pot* or plant, Feb. or Mar. *Good drainage* very essential. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily from Mar. until flowers develope. *Prune* away dead or sickly shoots only in Mar. *Ventilate* freely, Ap. to Oct. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Foliage* must be kept free from insects. *Outdoor culture*: *Soil*, equal parts peat & loam. *Position*, west walls, sheltered, in S. of England only. *Plant*, Oct. or Mar., in well drained bed. *Protect* in severe weather. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or pans of sandy peat & leaf-mould in temp. of 55° to 65° in Mar. or Ap.; by layering strong shoots in sandy peat in spring or autn.

Lapeyrousia.—*Ord.* Iridaceæ. Hardy bulbous flowering plants. *Nat. Cape of Good Hope.* *Int.* 1791. *Ht.* 6 to 12 in. *Species* cultivated, about 3. *Flowers*, blue, purple, pink, rose; May to Sept. *Soil*, sandy loam & leaf-mould. *Position*, sunny well drained borders or rockeries. *Plant*, bulbs 4 in. deep & 3 in. apart, Sept. to Oct. *Pot culture*: *Compost*, equal parts sandy loam, leaf-mould, & sand. *Position*, cold frame, Sept. to Feb.; cool or cold greenhouse afterwards. *Pot* Sept., placing six bulbs in a 6-in. pot, & cover with cinder ashes till growth begins. *Water* moderately when new growth commences; keep dry after flowering till potting time. *Propagate* by offshoots removed at planting or potting time, & treated as old bulbs.

Lapper Gowan (*Trollius europæus*)—see *Trollius*.

Larch Pine (*Pinus Laricio*)—see *Pinus*.

Larch (*Larix europæa*)—see *Larix*.

Lardizabala.—*Ord.* Berberidaceæ. Hardy evergreen flowering climber. *Orn. foliage.* *Nat. Chili.* *Int.* 1848. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, purple; Dec. *Foliage*, divided, green, glossy. *Soil*, equal parts sandy loam & peat. *Position*, well drained border at base of S. or W. walls. *Plant*, Sept., Oct., Mar., or Ap. *Prune* away dead or straggly shoots only in Ap. *Suitable* also for growing against walls in cold greenhouses or conservatories. *Propagate* by cuttings of firm shoots, 1 to 2 in. long, inserted in sandy loam & peat in well drained pots under bell-glass, in temp. 45° to 55°, spring or autn.

Large African Lily (*Crinum giganteum*)—see *Crinum*.

Large Autumn Crocus (*Crocus speciosus*)—see *Crocus*.

Large-blossomed Blanket Flower (*Gaillardia grandiflora*)—see *Gaillardia*.

LARGE BLUE BELL

LARGE-FLOWERED TORCH-LILY.

- Large Blue Bell (*Scilla campanulata*)—see Scilla.
Large-calyxed Primrose (*Primula calycina*)—see Primula.
Large Cape Marigold (*Calendula hybrida*)—see Calendula.
Large Crimson-flowered Groundsel (*Senecio pulcher*)—see Senecio.
Large-flowered Andromeda (*Andromeda speciosa*)—see Andromeda.
Large-flowered Australian Heath (*Epacris grandiflora*)—see Epacris.
Large-flowered Barren-wort (*Epimedium macranthum*)—see Epimedium.
Large-flowered Bell-flower (*Campanula macrantha*)—see Campanula.
Large-flowered Christmas Rose (*Helleborus niger maximus*)—see Helleborus.
Large-flowered Clematis (*Clematis florida*)—see Clematis.
Large-flowered Dragon's Head (*Dracocephalum grandiflorum*)—see Dracocephalum.
Large-flowered Evening Primrose (*Oenothera Lamarckiana*)—see Oenothera.
Large-flowered Everlasting (*Helichrysum macranthum*)—see Helichrysum.
Large-flowered Flea-bane (*Erigeron grandiflorus*)—see Erigeron.
Large-flowered Fox-glove (*Digitalis grandiflora*)—see Digitalis.
Large-flowered Groundsel (*Senecio Doronicum*)—see Senecio.
Large-flowered Laburnum-tree (*Cytisus grandiflorus*)—see Cytisus.
Large-flowered Lady's-slipper (*Cypripedium macranthum*)—see Cypripedium.
Large-flowered Larkspur (*Delphinium grandiflorum*)—see Delphinium.
Large-flowered Loose-strife (*Lysimachia grandiflora*)—see Lysimachia.
Large-flowered Lychnis (*Lychnis grandiflora*)—see Lychnis.
Large-flowered Mock-Orange (*Philadelphus grandiflorus*)—see Philadelphus.
Large-flowered Pimpernel (*Anagallis grandiflora*)—see Anagallis.
Large-flowered Plantain Lily (*Funkia grandiflora*)—see Funkia.
Large-flowered St. John's-wort (*Hypericum calycinum*)—see Hypericum.
Large-flowered Sandwort (*Arenaria grandiflora*)—see Arenaria.
Large-flowered Scarlet Avens (*Geum coccineum grandiflorum*)—see Geum.
Large-flowered Self-heal (*Prunella grandiflora*)—see Prunella.
Large-flowered Skull-cap (*Scutellaria macrantha*)—see Scutellaria.
Large-flowered Spindle-tree (*Euonymus grandiflorus*)—see Euonymus.
Large-flowered Sun-rose (*Helianthemum grandiflorum* & *H. macranthum*)—see Helianthemum.
Large-flowered Syringa (*Philadelphus grandiflorus*)—see Philadelphus.
Large-flowered Thrift (*Armeria grandiflora*)—see Armeria.
Large-flowered Tick-seed (*Coreopsis grandiflora*)—see Coreopsis.
Large-flowered Torch-lily (*Tritoma Uvaria grandiflora*)—see Tritoma.

Large-flowered White Bell-flower (*Campanula macrantha alba*)—see Campanula.

Large-flowered Whortle-berry (*Vaccinium grandiflorum*)—see Vaccinium.

Large-fringed Stone-crop (*Sedum spurium*)—see Sedum.

Large-fruited Spindle-tree (*Euonymus latifolius*)—see Euonymus.

Large-headed Centaury (*Centaurea macrocephala*)—see Centaurea.

Large-leafted Rose Acacia (*Robinia hispida macrophylla*)—see Robinia.

Large-leaved Aronia (*Pyrus grandifolia*)—see Pyrus.

Large-leaved Dog-wood (*Cornus macrophylla*)—see Cornus.

Large Periwinkle (*Vinca major*)—see Vinca.

Large Purple-fruited Juniper (*Juniperus macrocarpus*)—see Juniperus.

Large Rampion (*Enothera biennis*)—see Enothera.

Largest Rhododendron (*Rhododendron maximum*)—see Rhododendron.

Large Rose-tinted Evening-Primrose (*Enothera marginata*)—see Enothera.

Large Scarlet Catch-fly (*Silene rotundifolia*)—see Silene.

Large-spiked Horse Chestnut (*Pavia macrostachya*)—see Pavia.

Large-spined Broom (*Genista horrida*)—see Genista.

Large-styled Cross-wort (*Crucianella stylosa*)—see Crucianella.

Large White American Wood-lily (*Trillium grandiflorum*)—see Trillium.

Large Yellow-flowered Barren-wort (*Epimedium pinnatum*)—see Epimedium.

Large Yellow Toad-flax (*Linaria dalmatica*)—see Linaria.

Larix (Larch-tree).—*Ord.* Coniferæ. Hardy deciduous trees. *Orn.* foliage. *Nat.* Europe, Siberia, Japan, N. India, N. America. *Int.* 1629. *Ht.* 20 to 150 ft. *Species* cultivated, 7. *Leaves*, needle-shaped, soft; borne singly or in bundles. *Cones*, small, oval, or cylindrical. *Soil*, ordinary. *Position*, dry banks in open or shady shrubberies or in woodlands as nurses to tender conifers. *Plant*, Oct. to Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, & 1 in. apart in sandy soil in Nov.; transplant when two years old.

Lasiandra (Brazilian Spider-flower).—*Ord.* Melastomaceæ. Green-house flowering shrubs. Evergreen. *Nat.* Brazil. *Int.* 1864. *Ht.* 4 to 21 ft. *Species* cultivated, 1; variety, 1. *Flowers*, violet, purple; Ap. to Aug. *Compost*, two parts turfy loam, one part peat, & one part charcoal & sand. *Position*, well drained pots, tubs, or beds, with shoots trained to trellis, or up pillars, rafters, or walls. *Pot*, or plant, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* stimulants once a week, May to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Propagate* by cuttings of firm side shoots 3 in. long inserted singly in small pots of sandy soil, under bell-glass or in propagator, in temp. of 70° to 80°, Feb. to Sept.

Lasthenia.—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1834. *Ht.* 9 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, warm, sheltered rockeries, beds, or borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Ap. where plants are required to grow for summer flowering; in Sept. or Oct., similarly for spring flowering.

Lastrea (Buckler Fern, Shield Fern, Male Fern, Violet-scented Fern). *Ord.* Filices, stove, greenhouse, & hardy ferns. Evergreen & deciduous. *Nat.* Europe (Britain), India, China, Japan, N. & S. America, S. Africa, New Zealand. *Int.* (foreign species) 1784. *Ht.* 6 to 30 in. *Species* cultivated, 1 stove 32 greenhouse, 13 hardy; varieties numerous. *Frons*, chiefly feather-shaped,

occasionally crested, green, or variegated. *Culture of Stove species*: Compost, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots in shady part of stove. *Pot*, Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Culture of greenhouse species*: Compost, as above. *Position*, well drained pots, borders, or rockeries, in shade. *Pot* or plant, Feb., Mar., or Ap. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Culture of hardy species*: Soil, ordinary light rich. *Position*, shady borders or rockeries. *Plant*, Ap. *Water* freely in dry weather, May to Sept. *Top-dress* annually with leaf-mould or well decayed manure. *Protect* in severe weather with bracken or litter. *Do not* remove dead fronds until Ap. *Propagate* by spores sown on surface of fine sandy peat, under bell-glass, in temp. 75° to 85° any time; division of plants at potting or planting time.

Latania (Bourbon Palm).—*Ord.* Palmaceæ. Stove Palms. *Orn.* foliage. *Nat.* Mauritius, Bourbon & Rodriguez Islands. *Int.* 1778. *Ht.* 7 to 10 ft. *Species* cultivated, about 3. *Leaves*, fan-shaped, bright green. *Compost*, two parts loam, one part peat & a little charcoal & sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* once daily in winter; twice other times. *Temp.*, Mar. to Sept, 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ -in. deep in rich light soil in temp. of 80° to 90°, Feb., Mar., or Ap.

Late-blooming Crocus (*Crocus autumnalis*)—see Crocus.

Late-flowering Star-wort (*Aster tardiflorus*)—see Aster.

Lathyrus (Everlasting Pea, Lord Anson's Pea, Sweet Pea).—*Ord.* Leguminosæ. Hardy annuals & herbaceous perennial climbers. Flowering. *Nat.* (sweet pea) Sicily; (common everlasting pea) Britain; other species, Europe, America, Africa, Asia. *Int.* (foreign species), 1596; (sweet pea), 1700. *Ht.* 1 to 15 ft. *Species* cultivated, 7 annuals, 10 perennials; varieties numerous. *Flowers*, various; May to Oct. *Culture of annual species*: Soil, rich ordinary. *Position*, groups in sunny borders, shoots supported by tree branches; against sunny walls or fences; in sunny window boxes; in rows in open garden. *Sow* seeds three or four in a 3-in. pot in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; or 2 in. deep in Mar. or Ap., where plants are to grow. *Water* liberally in dry weather. *Apply* liquid manure once or twice weekly to plants in flower. *Remove* seed pods as they form up to Sept., to ensure plenty of flowers. *Pot culture*: Sow four seeds 1 in. deep in 3-in. pots in temp. 45° to 55° in Mar. *Compost*, two parts loam, one part leaf-mould & sand. *Transfer* four seedlings, when 2 in. high, to a 5-in. pot. *Support* shoots with small tree branches. *Water* liberally. *Apply* liquid manure when flowers show. *Grow* in cool greenhouse or window when in flower. *Culture of perennial species*: Soil, ordinary deep rich. *Position*, against sunny walls, fences, arbours, or tree stumps. *Plant*, Oct., Nov., Mar., or Ap. *Apply* liquid manure occasionally in sum. *Water* freely in dry weather. *Prune* away stems close to ground in Oct. *Top-dress* with decayed manure in Mar. *Propagate* by seeds sown in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May; or outdoors in Ap.; by division of roots in Mar. or Ap.

Lattice-leaf Plant (*Ouvrandra fenestralis*)—see Ouvrandra.

Laurel (*Cerasus Lauro-cerasus*)—see Cerasus.

Laurel-leaved Rock-rose (*Cistus laurifolius*)—see Cistus.

Laurel Oil-plant (*Laurus nobilis*)—see Laurus.

Laurestinus (*Viburnum Tinus*)—see Viburnum.

Laurus (Bay Laurel, Bay Tree, Sweet Bay, Victor's Laurel, Poet's Laurel).—*Ord.* Lauracæ. Hardy evergreen tree. *Orn.* foliage. *Nat.* S. Europe. *Int.* 1562. *Ht.* 15 to 30 ft. *Species* cultivated, 1; varieties several.

Flowers, male & female born on separate trees, yellow, insignificant. *Berries*, dark purple; ripe, Oct. *Leaves*, lance-shaped, dark green, aromatic. *Soil*, ordinary. *Position*, open, sunny sheltered shrubberies or borders. *Plant*, Sept., Mar., or Ap. *Prune* into shape when necessary in Ap. *Culture in tubs*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained in sun. *Plant*, Sept., Oct., Mar., or Ap. *Place* outdoors, May to Oct., cool greenhouse or other frost-proof place, Oct. to May. *Water* very little, Oct. to Ap.; freely afterwards. *Propagate* by cuttings of shoots, 3 to 4 in. long, inserted in sandy soil under hand lights in shady place outdoors, Aug., Sept., or Oct.; layering shoots in Sept. or Oct.

Lavandula (Lavender).—*Ord.* Labiatae. Greenhouse & hardy flowering shrubs. Evergreen. *Nat.* S. Europe, Canary Islands, Madeira. *Int.* 1568. *Ht.* 1 to 3 ft. *Species* cultivated, 2 hardy; 3 greenhouse; varieties 3. *Flowers*, lilac, blue, fragrant; June to Sept. *Culture of greenhouse species*: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in light airy part of greenhouse. *Pot*, Feb. or Mar. *Prune* slightly into shape, Feb. *Water* very moderately, Oct. to Mar.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Apply* weak stimulants to plants when in flower only. *Outdoor culture*: *Soil*, ordinary light. *Position*, warm, dry, & sunny. *Plant*, Mar. or Sept., a foot apart in rows 2 ft. asunder. *Water* occasionally in dry weather. *Prune* straggly plants into shape, Mar. or Ap. *Gather* blossoms for drying or distilling when they assume a brown colour. Dry slowly in shade & store in dry place. *Leaves* of all species fragrant. *Propagate* greenhouse species by cuttings of young shoots inserted in sandy soil under bell-glass in temp. of 55° to 65°, Mar. or Ap.; hardy species by small branches pulled off large plants & inserted in ordinary soil in sunny position outdoors, Ap. or Sept.

Lavatera (Tree Mallow).—*Ord.* Malvaceae. Half-hardy biennial & annual. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia Minor. *Int.* (foreign species), 1633. *Ht.* 3 to 10 ft. *Species* cultivated, 2; variety, 1; variegated. *Flowers*, purple; June & Aug. *Leaves*, hand-shaped, green or variegated with white. *Culture of biennial species* (*L. aborea*): *Soil*, ordinary. *Position*, warm, sheltered, dryish borders. *Plant*, June. *Culture of annual species* (*L. trimestris*): *Soil*, ordinary light rich. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep where plants are required to grow in Sept. or Ap. *Propagate* biennial species by seeds sown in pots or boxes of light soil in temp. of 55° to 60° in Mar. or Ap.; or in sunny position outdoors, Ap. or May.

Lavender (*Lavandula spica*)—see Lavandula.

Lavender Oil-plant (*Lavandula vera*)—see Lavandula.

Lawn Pearl-wort (*Spergula pilifera*)—see Spergula.

Lawn Spurrey (*Spergula pilifera*)—see Spergula.

Lawson's Cypress (*Cupressus Lawsoniana*)—see Cupressus.

Lawsonia (Egyptian Privet, Henna Plant, Jamaica Mignonette).—*Ord.* Lythraceae. Stove flowering-tree. Deciduous. *Nat.* Africa, Arabia, Persia, India. *Int.* 1752. *Ht.* 5 to 8 ft. *Flowers*, white, fragrant; Mar. & Sept. *Compost*, equal parts turfy loam, peat, & sand. *Position*, well drained pots in light part of plant stove. *Pot*, Mar. or Ap. *Prune* into shape, Feb. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* freely, Mar. to Sept. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings of firm shoots 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. of 85° in Mar. or Ap.

Layia (Tidy-tips Flower).—*Ord.* Compositae. Hardy annuals. *Nat.* N. America. *Int.* 1834. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, white; June to Sept. *Soil*, ordinary. *Position*, sunny bed or borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light mould in temp. 65° to 66° in Ap., transplanting seedlings outdoors end of May; or outdoors in Ap. where plants are required to grow.

Lead-wort (*Plumbago capensis*)—see *Plumbago*.

Leaf-flowering Cactus (*Epiphyllum truncatum*)—see *Epiphyllum*.

Leaf of St. Patrick (*Saxifraga umbrosa*)—see *Saxifraga*.

Leafy Orchis (*Orchis foliosa*)—see *Orchis*.

Leafy Phlox (*Phlox frondosa*)—see *Phlox*.

Leather Flower (*Clematis viorna*)—see *Clematis*.

Leavenworthia.—*Ord.* Craciferae. Hardy annuals. *Nat.* U. S. America. *Int.* 1868. *Ht.* 3 in. *Species* cultivated, 1; variety, 1. *Flowers*, golden yellow, lilac; June to Sept. *Soil*, ordinary. *Position*, sunny, as edgings to beds, or in masses in borders. *Propagate* by seed sown in temp. 55° to 65° in Ap., planting seedlings outdoors in June; or outdoors in May where plants are to flower.

Lebanon Cedar (*Cedrus Libani*)—see *Cedrus*.

Ledum (Labrador Tea, Marsh Cistus, Marsh Rosemary).—*Ord.* Ericaceae. Hardy flowering shrubs. Evergreen. *Nat.* U. S. America & N. Europe. *Int.* 1762. *Ht.* 1 to 3 ft. *Species* cultivated, 2; varieties, 2. *Flowers*, white; Ap. & May. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open, well drained beds or borders in company with azaleas, kalmias, etc. *Plant*, Oct., Nov., or Mar., disturbing roots as little as possible. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, in a well drained pan of sandy peat in a cold frame in Mar.; by layering in Sept.; division of roots in Sept. or Oct.

Ledum-leaved Azalea (*Azalea ledifolia*)—see *Azalea*.

Leea.—*Ord.* Ampelidaceae. Stove Shrub. Orn. foliage. *Nat.* Borneo. *Int.* 1880. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, bronzy-green, striped with white above, and dark-red below. *Compost*, two parts loam, one part well decayed manure or leaf-mould and one part sharp silver sand. *Position*, well drained pots in shade. *Pot*, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Aug. *Propagate* by cuttings of side shoots inserted in sandy soil under bell-glass in temp. 75° to 85° in spring.

Leek (*Allium Porrum*)—see *Allium*.

Leiophyllum (Sand Myrtle).—*Ord.* Ericaceae. Hardy flowering shrub. Evergreen. *Nat.* New Jersey, Virginia. *Int.* 1736. *Ht.* 4 to 8 in. *Species* cultivated, 1. *Flowers*, white, pink; May & June. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open, margins of well drained beds or borders. *Plant*, Oct, Nov., or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pan of sandy peat in a cold frame in Mar.; by layering in Sept.

Lemon Bergamot Tree (*Citrus Bergamia*)—see *Citrus*.

Lemon-coloured Mariposa Lily (*Calochortus citrinus*)—see *Calochortus*.

Lemon Grass (*Andropogon Schenanthus*)—see *Andropogon*.

Lemon Oil-plant (*Citrus Limonum*)—see *Citrus*.

Lemon-scented Gum-tree (*Eucalyptus maculata citriodora*)—see *Eucalyptus*.

Lemon-scented Magnolia (*Magnolia citriodora*)—see *Magnolia*.

Lemon-scented Thyme (*Thymus citriodorus*)—see *Thymus*.

Lemon-scented Verbena (*Aloysia citriodora*)—see *Aloysia*.

Lemon-tree (*Citrus Limonum* & *Aloysia citriodora*)—see *Citrus* & *Aloysia*.

Lens (Lentils).—*Ord.* Leguminosae. Hardy annual. *Nat.* Mediterranean. *Int.* 1548. *Ht.* 6 to 18 in. *Species* cultivated, 1. *Flowers*, pale blue; June to Aug. *Leaves*, feather-shaped. *Pods*, about $\frac{1}{2}$ in. long, $\frac{1}{4}$ in. broad, containing two seeds. *Seeds*, edible, used chiefly in soups, etc. *Soil*, light, ordinary. *Position*, sunny borders. *Sow* seeds 2 in. deep & 2 in. apart in drills 18 in. asunder early in Ap. *Allow* the plants to grow till quite

yellow, then pull up, dry thoroughly in the sun, gather pods & store in a dry place till required for use.

Lent Lily (*Narcissus pseudo-narcissus*)—see *Narcissus*.

Lent Rose (*Narcissus pseudo-narcissus*)—see *Narcissus*.

Lenten Rose (*Helleborus colchicus*)—see *Helleborus*.

Lentils (*Lens esculentea*. Also known as *Ervum Lens*)—see *Lens*.

Leonotis (Lion's Ear, Lion's Tail).—*Ord.* Labiatae. Greenhouse flowering shrub. Evergreen. *Nat.* Cape of Good Hope. *Int.* 1712. *Ht.* 2 to 5 ft. *Species* cultivated, 1. *Flowers*, scarlet; Oct. to Mar. *Compost*, two parts rich loam, one part equal proportions of leaf-mould, charcoal, & silver sand. *Position*, well drained pots in light airy part of greenhouse, Sept. to June; sunny place outdoors, June to Sept. *Pot.* Mar. or Ap. *Prune* into shape after flowering. *Water* moderately, Ap. to Sept.; very sparingly afterwards. *Temp.*, Sept. to Ap., 40° to 50°; Ap. to June, 55° to 65°. *Propagate* by cuttings of shoots inserted in light sandy soil in temp. 55° to 65° in Mar. or Ap. *Young* plants require tops of shoots to be removed occasionally to induce bushy growth.

Leontice (Lion's Leaf, Lion's Turnip).—*Ord.* Berberidaceae. Hardy tuberous-rooted perennials. *Nat.* Altai Mountains, Levant. *Int.* 1597. *Ht.* 3 to 12 in. *Species* cultivated, about 3. *Flowers*, yellow; Mar. to June. *Soil*, equal parts sandy loam, leaf-mould, & sand. *Position*, sheltered sunny rockery. *Plant* tubers in Sept. or Oct.; base only of tuber to be buried in the soil, leaving the upper part exposed. *Mulch* with cocoanut-fibre refuse or decayed leaves in sum., & protect tubers with covering of ashes in winter. *Propagate* by offsets removed & planted in Sept. or Oct.

Leontopodium (Edelweiss, Lion's-foot).—*Ord.* Compositae. Hardy perennial herb. *Nat.* Alps. *Int.* 1776. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow, inconspicuous, but surrounded by a white, cottony, star-shaped involucre; June to Aug. *Soil*, well drained, sandy. *Position*, exposed sunny rockeries. *Plant*, Mar. or Ap. *Protect* from heavy rains in autm. & winter by placing a square of glass, supported by sticks at each corner, a few inches above the plants. *Gather* flowers in Aug., & dry for preserving. *Best results* are obtained by raising fresh plants from seed annually, or by dividing old plants in spring. *Propagate* by seeds sown in Mar. in a well-drained pan of fine loam, leaf-mould, & granite chips, placed under a hand-light, or in a cold frame in a cool shady spot, transplanting seedlings outdoors in Aug. or Sept.; by division of plants in Ap.

Leopard's-bane (*Doronicum Pardalianches*)—see *Doronicum*.

Leopard's-bane Groundsel (*Senecio Doronicum*)—see *Senecio*.

Leopard Lily (*Lachenalia tricolor*)—see *Lachenalia*.

Leptinella.—*Ord.* Compositae. Hardy perennial shrub. *Orn.* foliage. *Nat.* New Zealand, Auckland Island. *Int.* date unknown. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, yellow, June to Aug. *Leaves*, narrow, feather-shaped, dark green. *Soil*, ordinary. *Position*, sunny; as edgings or ground work for carpet beds. *Plant*, Ap., May, or June. *Propagate* by division of roots in Sept. & Oct. or Ap. & May.

Lepidium (Cress).—*Ord.* Cruciferae. Hardy annual. *Nat.* Persia. *Int.* 1548. *Ht.* 3 to 15 in. *Species* cultivated, 1; varieties several. *Flowers*, white; June. *Leaves*, finely divided, agreeably flavoured & largely used in conjunction with mustard for salads. *Outdoor culture*: *Soil*, ordinary. *Position*, open borders. *Sow* seeds on surface of soil, water, and cover with mats or boards until they germinate; or in drills $\frac{1}{2}$ in. deep, & 6 in. apart. *Make* first sowing end of Mar., follow with successional sowings every 10 days until Sept., then cease. *Gather* for salading when 1 in. high. Two crops sufficient off one piece of ground. *Indoor culture*: *Sow* seed on surface of light soil in shallow boxes, moisten with tepid water, cover with sheet of paper, slate, or board, & place in warm position in greenhouse or room. *Sow* for succession

every 7 days. Two crops may be grown in same soil. Seeds may be sown on flannel kept moist in a warm room, at any time of year.

Leptosiphon.—*Ord.* Polemonaceæ. Hardy annuals. *Nat.* California. *Int.* date unknown. *Ht.* 9 to 12 in. *Species* cultivated, 3; varieties several. *Flowers*, rose, golden yellow, lilac, pink, white; June to Sept. *Soil*, ordinary. *Position*, as edgings to sunny beds or borders or ledges of rockeries. *Propagate* by seeds sown in Mar., where plants are required to grow, slightly covering with fine mould.

Leptosyne.—*Ord.* Compositæ. Hardy annual & perennial. *Nat.* California. *Int.* date unknown. *Ht.* 1 to 2 ft. *Species* cultivated, 1 annual, 1 perennial. *Flowers*, yellow; Aug. to Oct. *Soil*, ordinary. *Position*, sunny well drained beds or borders. *Plant*, perennial species in Oct. or Mar.; annual species, May or June. *Propagate* both species by seeds sown $\frac{1}{2}$ in. deep, in light soil in temp. 65° to 75° in Mar.; transplant seedlings when 1 in. high, 2 in. apart in boxes of light soil, & keep in cool greenhouse till May or June, then plant outdoors.

Leptotes.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil. *Int.* date unknown. *Ht.* 4 to 8 in. *Species* cultivated, 2. *Flowers*, white; Jan. to Ap. *Compost*, equal parts fibrous peat, sphagnum moss, & charcoal. *Position*, light, fastened by copper wire to small blocks of teak, & roots covered with sphagnum moss; or in small well drained pots or teak baskets. *Place* on blocks, or in pots or baskets in Mar. *Temp.*, Nov. to Feb., 45° to 55°; Mar. to May, 50° to 60°; May to Nov., 55° to 65°. *Water* once a week, Nov. to Feb.; twice Feb. to Ap.; daily Ap. to Nov. *Propagate* by division of plants in Mar.

Leschenaultia.—*Ord.* Goodenaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1824. *Ht.* 12 to 18 in. *Species* cultivated, 2; variety, 1. *Flowers*, blue, scarlet; June to Sept. *Compost*, two parts fibrous peat & one part silver sand. *Pot*, Mar. or Ap. *Position*, well drained pots in light sunny greenhouse. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Water* sparingly, Oct. to Ap.; moderately afterwards; use soft water only. *Manures* or stimulants not required. *After flowering*, nip off the points of the shoots. *Repotting* only necessary every second year. *Firm potting* essential. *Ventilate* freely in fine weather. *Propagate* by cuttings inserted in sandy peat under bell-glass in temp. 50° to 55°.

Lespedeza (Purple Broom, Japanese Clover).—*Ord.* Leguminosæ. Hardy flowering shrubs. Deciduous. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, rosy-purple, Sept. to Oct. *Soil*, sandy loam. *Position*, sheltered sunny borders. *Plant*, Oct. or Nov., Feb. or Mar. *Prune* slightly after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in a sheltered position outdoors in Feb. or Mar.; cuttings inserted in heat in spring; layering Sept. or Oct.

Letter-leaf (*Grammatophyllum speciosum*)—see *Grammatophyllum*.

Letter-plant (*Grammatophyllum speciosum*)—see *Grammatophyllum*.

Lettuce (*Lactuca sativa*)—see *Lactuca*.

Leucanthemum (Ox-eye Daisy).—*Ord.* Compositæ. Hardy perennial. *Nat.* Alps. *Int.* 1759. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by division of roots, Oct. or Ap.

Leucojum (Bulbous Violet, Snowflake, Summer Snowdrop).—*Ord.* Amaryllidaceæ. Hardy bulbous plants. *Nat.* C. & S. Europe (S. of England). *Int.* (foreign species) 1596. *Ht.* 4 to 18 in. *Species* cultivated, 2; varieties several. *Flowers*, white, green, fragrant; Mar. to July. *Soil*, ordinary rich. *Position*, Summer Snowflake (*L. aestivum*) in sunny or shady borders or woodlands; Spring Snowflake (*L. vernal*) in shady borders or on rockeries. *Plant*, bulbs 4 in. deep, & 3 in. apart, Aug. to Nov. *Bulbs* do not usually flower first year after planting, and only require to be lifted &

replanted every five to eight years. *Propagate* by offsets, removed & replanted in Sept. or Oct.

Leucophyta.—*Ord.* Compositæ. Hardy trailing plant. *Orn.* foliage. *Nat.* New Holland. *Int.* date unknown. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, insignificant. *Foliage*, whipcord-like, covered with dense silvery tomentum. *Soil*, ordinary. *Position*, edgings, bands, or lines for carpet beds. *Plant*, May or June. *Leaf* & store in cold frame for winter in Sept. *Propagate* by division of plants in Mar. or Ap.

Leucopogon (Australian Currant).—*Ord.* Epacridaceæ. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1815. *Ht.* 2 to 6 ft. *Species* cultivated, about 3. *Flowers*, white, pink; June to Aug. & Nov. to Ap. *Compost*, three-fourths fibry peat, one-fourth silver sand. *Position*, light airy greenhouse Sept. to July, sunny place outdoors July to Sept. *Repot*, Ap., May, or June; good drainage essential. *Prune* shoots of erect kinds to within 1 in. of base directly after flowering; pendulous kinds about half-way. *Water* moderately at all times. *Syringe* plants daily, Mar. to July. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to July, 55° to 60°. *Stimulants* not essential. *Propagate* by seeds sown immediately they ripen on surface of sandy peat under bell-glass in temp. 55°; cuttings of ends of shoots inserted in pots of sandy peat covered with bell-glass placed in cool greenhouse in Aug. or Ap.

Leucostegia.—*Ord.* Filices. Evergreen & deciduous ferns. *Nat.* Ceylon, N. India, Borneo. *Int.* date unknown. *Ht.* 12 to 18 in. *Species* cultivated, about 5. *Fronds* finely divided, light, graceful. *Compost*, two parts peat, one each of loam, leaf-mould, & sand. *Pot*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in shady part of greenhouse. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringing* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by spores sown on surface of pans of sandy peat in temp. 55° to 65° any time; division of rhizomes, Feb. or Mar.

Leucothoe.—*Ord.* Ericaceæ. Hardy flowering shrubs. Evergreen. *Nat.* N. America, Japan. *Int.* 1765. *Ht.* 2 to 8 ft. *Species* cultivated, 6. *Flowers*, white, May to July. *Soil*, equal parts peat, leaf-mould, & sand. *Position*, open sheltered borders. *Plant*, Sept., Oct., Mar., or Ap. *Pruning* not necessary. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in sandy peat in cold frame, Feb. or Mar.; layering shoots in Sept.; division, Oct. or Nov.

Lewisia (Bitter-wort, Spatulum).—*Ord.* Portulacaceæ. Hardy herbaceous perennial. *Nat.* North-West America. *Int.* 1826. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, rose, white, 1 to 2½ in. in diameter; June to Sept. *Soil*, equal parts sandy loam, peat, & sand. *Position*, crevices of moist sunny rockeries. *Plant*, Sept., Oct., Mar., or Ap. *Water* occasionally in dry weather. *Leaves* wither at the time of flowering, or may not be produced at all. *Growing period* above ground, about six weeks. *Propagate* by seeds sown in well drained pans of sandy loam & peat in a cool shady frame in Mar. or Ap.; division of the roots in Mar. or Ap.

Leycesteria (Himalayan Honeysuckle, Flowering Nutmeg).—*Ord.* Caprifoliaceæ. Hardy-flowering shrub. Deciduous. *Nat.* Himalayas. *Int.* 1824. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, white & purple; May to Aug.; succeeded by purple berries in autn. *Soil*, ordinary. *Position*, sunny sheltered borders. *Plant*, Oct., Nov., Feb., or Mar. *Prune* into shape after flowering. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light soil in temp. 45° to 55° in Mar. or Ap.; cuttings of side shoots inserted in light soil & similar temp. in Ap., also of firm shoots inserted in sandy soil under hand light in Sept. or Oct.

Liatris (Button Snake-root, Blazing Star).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* N. America. *Int.* 1732. *Ht.* 1 to 3 ft. *Species* cultivated, 6; varieties 2. *Flowers*, purple, white; June to Oct. *Soil*, light, rich, ordinary. *Position*, open sunny beds or borders. *Plant*, Oct., Nov., Mar., or

Ap. Cut off decayed flower stems in Oct. Mulch with decayed manure in Ap. Water freely in dry weather. Propagate by seeds sown $\frac{1}{4}$ in. deep in light sandy soil outdoors in Aug. or Sept., transplanting seedlings the following May; division of plants in Mar. or Ap.

Liberian Coffee-tree (*Coffea liberica*)—see *Coffea*.

Libertia.—*Ord.* Iridaceæ. Hardy evergreen perennials. Flowering & orn. foliage. *Nat.* Chili, New Zealand, Australia. *Int.* 1823. *Ht.* 1 to 4 ft. *Species* cultivated, 5. *Flowers*, white, borne in panicles; Ap. to Aug. *Leaves*, sword-shaped or grass-like, graceful, dark green. *Soil*, equal parts sandy loam, peat, and leaf-mould. *Position*, well drained sunny borders, or preferably, rockeries. *Plant*, Sept., Oct., Mar., or Ap. *Protect*, Nov. to Ap., by covering with dry fern, tree leaves, or strawy manure. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in cold frame or greenhouse, Aug. to Nov.; division of creeping rhizomes, Mar. or Ap.

Libocedrus (Incense Cedar, Chilian Arbor-vitæ, White Cedar, New Zealand Arbor-vitæ).—*Ord.* Coniferae. Hardy & half-hardy evergreen trees. *Orn.* foliage. *Nat.* Chili, California, New Zealand, Patagonia. *Int.* 1847. *Species* cultivated, 4. *Leaves*, scale-like, flat, glossy or milk-green. *Habit*, pyramidal or column-like. *Cones*, small, oblong. *Soil*, rich loam; subsoil, gravelly. *Position*, warm, sheltered; as single specimens on lawns. *Plant*, Sept. to Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of sandy soil in cold frame or greenhouse, Oct. to Ap.; cuttings of firm shoots or branchlets inserted in sandy soil in cold frame or under hand light in Aug. or Sept.

Libonia.—*Ord.* Acanthaceæ. Greenhouse shrubby flowering plants. Evergreen. *Nat.* Brazil. *Int.* 1862. *Ht.* 1 to 2 ft. *Species* cultivated, 1; hybrid variety, 1 (*L. Penrhosiensis*). *Flowers*, scarlet, crimson, yellow; Oct. to Mar. *Compost*, equal parts turfy loam, leaf-mould, or decayed manure & little sand. *Position*, light part of greenhouse, Sept. to June; Sunny cold frame, June to Sept. *Pot*, Mar. or Ap. in 5-in. or 6-in. sizes. *Prune* shoots after flowering to within 1 in. of base. *Water* moderately, Oct. to Ap.; freely afterwards. *Apply* weak stimulants once or twice weekly during flowering period. *Syringe* foliage twice daily, Mar. to Sept. *Temp.*, Sept. to Mar., 50° to 60°; Mar. to June, 60° to 70°. *Propagate* by cuttings of young shoots 1 in. to 2 in. long, inserted in well drained pots filled with sandy soil in temp. 75° to 85°, Feb. to May.

Licuala (Penang Lawyers).—*Ord.* Palmaceæ. Stove palms. *Orn.* foliage. *Nat.* Pulo Penang, Indian Archipelago, New Britain, Sumatra. *Int.* 1802. *Ht.* 4 to 10 ft. *Species* cultivated, about 6. *Leaves*, fan-shaped, green. *Compost*, two parts peat & one of loam & sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* twice daily, Mar. to Sept.; once daily, Sept. to Mar. *Temp.*, Mar. to Sept., 55° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar., or Ap.

Life-everlasting (*Gnaphalium americanum*)—see *Gnaphalium*.

Life-root (*Senecio aureus*)—see *Senecio*.

Ligularia (Japanese Silver-leaf).—*Ord.* Compositæ. Hardy herbaceous perennials. *Orn.* foliage. *Nat.* Japan, Caucasus. *Int.* 1831. *Ht.* 1 to 3 ft. *Species* cultivated, 2; variety 1. *Flowers*, yellow; Aug. to Oct. *Leaves*, roundish, heart-shaped, & oval, green or variegated with yellow, white, & rose. *Soil*, peaty. *Position*, moist sheltered borders; variegated kind (*L. Kämpferi aureo-maculata*) best grown in pots in greenhouse, Sept. to May, then planted outdoors during sum. *Plant*, Mar. to June. *Propagate* by division of plants in Sept., Oct., Mar., or Ap.

Ligurian Bell-flower (*Campanula isophylla*)—see *Campanula*.

Ligustrum (Privet).—*Ord.* Oleaceæ. Hardy deciduous & evergreen shrubs. *Orn.* foliage & flowering. *Nat.* Europe (Britain), California, Japan, China, N. Africa. *Int.* (foreign species) 1794. *Ht.* 3 to 12 ft. *Species* cultivated, 4 evergreen, 1 deciduous; varieties, evergreen, 6, deciduous, 6.

Flowers, white, borne in terminal panicles, fragrant; June to Oct. **Berries** round, shining, black or yellow. **Leaves**, oblong, oval, & pointed, green, or variegated with white or yellow. **Soil**, loam or good ordinary. **Position**, common species in shrubberies, under shade of trees, in open or as hedges; others in open shrubberies. **Plant**, deciduous kinds, Oct. to Feb.; evergreen kinds, Oct. to Ap. *Prune* deciduous kinds in autn., evergreens in Ap. **Hedge culture**: **Soil**, ordinary, trenched two spits deep & 3 ft. wide. **Plant**, privet (1 to 3 ft. high) 6 to 9 in. apart, Oct. to Ap. **Trim** into shape, June & July. **Varieties** suitable, Common Privet (*L. vulgare*), Evergreen Privet (*L. v. sempervirens*), Oval-leaved Privet (*L. ovalifolium*). Also suitable shrubs for growing in town gardens. **Propagate** by seeds (berries) sown 1 in. deep in open ground in Nov., transplanting largest seedlings the following Oct., the remainder next year; cuttings of young shoots 2 to 4 in. long, inserted in a shady position outdoors or under a hand light, in sum.; also cuttings of firm shoots 8 to 12 in. long, inserted in shady position in ordinary soil outdoors, Sept. to Nov.; layering shoots in Sept. or Oct.

Lilac (*Syringa vulgaris*)—see *Syringa*.

Lilac Maniposa-lily (*Calochortus lilacinus*)—see *Calochortus*.

Lilac Star-flower (*Triteleia lilacina*)—see *Triteleia*.

Lilium (Brown's Lily, Gold-striped Lily, Bulb-bearing Lily, Callifernian Lily, Yellow American Lily, Bourbon Lily, Madonna Lily, White Lily, Carniola Lily, Carolina Lily, Scarlet Martagon Lily, Crimson-anthered Lily, Japanese Red-Star Lily, Heart-leaved Lily, Common Orange Lily, Saffron-coloured Lily, Black Martagon Lily, Siberian Orange Lily, Transparent Trumpet Lily, Giant Lily, Bermuda Easter Lily, Humboldt's Lily, Japanese Lily, Kramer's Lily, Spear-leaved Japanese Lily, Max-Leichtlin's Lily, Trumpet Lily, Martagon Lily, Caucasian Lily, Neilgherry Lily, Panther Lily, Parry's Lily, Wild Orange Lily, Himalayan White Lily, Turban Lily, Pyrenean Lily, Spotted Lily, Swamp Lily, Tom Thumb Lily, Nankeen Lily, Tiger Lily, Umbel-flowered Lily, Washington Lily, Wilson's Lily, St. Joseph's Lily).—*Ord.* Liliaceæ. Hardy and half hardy bulbous flowering plants. *Nat.* N. America, Europe, Japan, China, Mongolia, India, Persia, Philippine Islands. *Int.* 1596. *Ht.* 1 to 10 ft. *Species* cultivated, 37; varieties about 60. **Flowers**, crimson, red, scarlet, yellow, orange, white, purple, rose, black; fragrant in some cases; May to Oct. **Classification of Liliums**: Erect, cup-shaped flowers (Isolirion group).—*L. bulbiferum*, *L. Catesbæi*, *L. concolor* & vars., *L. davuricum* & vars., *L. philadelphicum*, *L. elegans* & vars. Trumpet-shaped flowers (Eulirion group).—*L. Browni*, *L. candidum* & vars., *L. cordifolium*, *L. giganteum*, *L. Krameri*, *L. longiflorum* & vars., *L. Parryi*, *L. Washingtonianum* & var. Recurved flowers (Martagon group).—*L. canadense*, *L. carniolicum*, *L. carolineum*, *L. chalcedonicum*, *L. Hansoni*, *L. Humboldtii*, *L. Leichtlini*, *L. martagon* & vars., *L. monadelphum* & var., *L. pomponum*, *L. pyrenaicum*, *L. superbum* & vars., *L. tenuifolium*, *L. testaceum*. Flowers drooping (Archelirion group).—*L. auratum* & vars., *L. speciosum* & vars., *L. tigrinum* & vars., *L. Thomsonianum*. **Outdoor culture**: **Soil**, ordinary, enriched with decayed manure, for *L. bulbiferum*, *L. candidum*, *L. chalcedonicum*, *L. croceum* & *L. testaceum*; rich loam for *L. auratum*, *L. martagon*, *L. monadelphum*, *L. pomponum*, *L. tenuifolium*, *L. tigrinum*, & *L. pyrenaicum*; loam, peat, & leaf-mould for *L. Browni*, *L. giganteum*, *L. davuricum*, *L. Hansoni*, *L. Krameri*, *L. longiflorum*, *L. Parryi*, *L. pardalinum*, *L. polyphyllum*, *L. speciosum*, *L. superbum*, *L. Leichtlini*, *L. philadelphicum*. Peat, leaf-mould, & sand for *L. canadense*, *L. concolor*, *L. Humboldtii*, *L. Washingtonianum*, & *L. Catesbæi*. **Position**, shady beds or borders for *L. Browni*, *L. canadense*, *L. Hansoni*, *L. pardalinum*, *L. auratum*, *L. concolor*, *L. polyphyllum*, *L. superbum*, *L. Washingtonianum*, *L. Leichtlini*, *L. philadelphicum*, *L. Catesbæi*; others in sun or shade. **Plant**, Oct. to Mar., in groups of three, six, or twelve bulbs. **Depth** for planting bulbs, 4 in. on cold soils; 6 in. on light soils. **Distance** from bulb

to bulb 6 in. *Special beds*: Remove soil to depth of 18 in. and circumference of 12 in. for 3 bulbs, 24 in. for 6 bulbs, 3 feet for 12 bulbs. Place 6 in. of cow manure in bottom & compost on this. In case of heavy wet subsoils, allow surface of bed to rise 4 in. above ordinary level. *Mulch* with decayed cow manure in Ap., first removing few inches of surface soil. *Protect* choice kinds during winter with covering of cinder ashes or strawy manure. *Cut down* flower stems when leaves turn yellow. *Water* in very dry weather. *Apply* liquid manure once or twice weekly when plants are in flower. *Treatment of imported bulbs*: Remove injured scales & surround bulbs with thin layer of cocoanut-fibre refuse in shallow box in cool position until latter become plump, then plant out. *Transplant* *L. candidum* in Aug. or Sept.; others in Oct. or Nov. Lilies should only be transplanted when unhealthy. *Pot culture*: *Compost*, equal parts loam, peat, leaf-mould, decayed manure, & sand. *Pot*, Sept. to Mar., placing one bulb of *L. auratum*, *L. speciosum*, or *L. Harrisii*, in a 5 or 6-in. pot, or three in an 8 or 10-in. pot; and three of *L. longiflorum*, *L. philippense*, or *L. neilgherrense*, in a 6 or 8-in. pot. *Put* $\frac{1}{2}$ drainage, then half fill with compost, place bulbs thereon, & cover with $\frac{1}{2}$ in. of compost. *After potting*, place pots in cold frame, greenhouse, or shed, & cover with 2 in. of cinder ashes or cocoanut-fibre refuse. Allow them to remain thus till growth begins, then remove to light airy part of greenhouse or to a window or cool room till they flower, or until June, then stand outdoors. *Water* moderately when growth begins; freely when in full growth. *Top-dress* with compost of equal parts loam, leaf-mould, & decayed manure when shoots are 3 in. high, filling pots to within $\frac{1}{2}$ in. of rim. *Apply* liquid manure twice weekly to plants in full growth. *Suitable stimulants*: Soot-water, guano-water ($\frac{1}{2}$ oz. to a gallon), liquid cow or horse manure. *Temp.* for forcing *L. Harrisii*, *L. neilgherrense* & *L. philippense*, 55° to 65°. *Repot* *L. Harrisii* annually in Sept.; others in Oct. or Nov., & treat as advised for first potting. *After flowering*, place plants in sunny position outdoors, gradually withhold water, & keep quite dry from Oct. to Feb. *L. Harrisii* should, however, never be kept quite dry, only moderately for six weeks, then watered as before. *Newly imported bulbs* treat as advised for outdoor culture. *Best kinds for pot culture*: *L. auratum*, *L. speciosum*, *L. longiflorum*, *L. L. Harrisii*, *L. neilgherrense*, *L. philippense*. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or boxes of sandy soil in cold frame in autn. or spring, transplanting seedlings when large enough to handle into similar soil in boxes, & in specially prepared bed outdoors when two years old; offsets or bulbils, planted an inch deep & two or three inches apart in boxes of sandy soil, or in similar soil in sunny cold frame in autn. Seedlings flower when six to seven years old; offsets or bulbils when three to five years old.

Lilliputian Laburnum-tree (*Oytissus Ardoinii*)—see *Cytissus*.

Lily-conval (*Convallaria majalis*)—see *Convallaria*.

Lily-flowered Magnolia (*Magnolia conspicua*)—see *Magnolia*.

Lily Grass (*Arum maculatum* & *Butomus umbellatus*)—see *Arum* & *Butomus*.

Lily Leek (*Allium moly*)—see *Allium*.

Lily Oil-plant (*Lilium candidum*)—see *Lilium*.

Lily Thorn (*Catesbæa spinosa*)—see *Catesbæa*.

Limatodes.—Ord. Orchidaceæ. Stove terrestrial orchid. Deciduous.

Nat. Moulmein. Int. 1850. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, dark rose; Oct. to Feb. *Compost*, equal parts peat & leaf-mould, & little sand. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Pot*, Mar. or Ap. *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely Ap. to Sept.; moderately Sept. to Jan.; keep quite dry Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*: Mar. to Oct.; *resting period*, Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Lime-fruit-tree (*Citrus medica acida*)—see Citrus.

Limestone Fern (*Polypodium calcareum*)—see Polypodium.

Lime Tree (*Tilia europæa*)—see Tilia.

Limnanthemum (Marsh-flower, Fringed Buck-Bean, Fringed Water Lily, Water-Fringe).—*Ord.* Gentianacæ. Hardy floating aquatics. Perennial. *Nat.* Britain. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Leaves*, roundish or heart-shaped. *Soil*, muddy. *Plant*, Mar. or Ap. *Propagate* by seeds sown in mud in Sept.; division of plants in Mar. or Ap.

Limnanthes.—*Ord.* Tropealacæ. Hardy Annual. *Nat.* California. *Int.* 1833. *Ht.* 6 to 8 in. *Species* cultivated, 1; varieties about 3. *Flowers*, yellow, white, grey, fragrant; Mar. to Oct. *Soil*, ordinary. *Position*, in mosses or as edgings to sunny beds, or on rockeries. *Sow* for Spring flowering in Sept. For sum. flowering in Ap. *Propagate* by seeds sown where plants are required to flower $\frac{1}{2}$ in. deep in Sept. or Ap.

Limncharis.—*Ord.* Alismacæ. Greenhouse & hardy herbaceous aquatics. *Nat.* S. America. *Int.* 1822. *Ht.* 12 to 18 in. *Species* cultivated, 2. *Flowers*, yellow; June to Nov. *Culture* of greenhouse species (*L. Pumieria*): *Compost*, two parts sandy loam, one part leaf mould & sand. *Position*, in shallow tubs, cisterns, or aquariums. *Plant*, 6 to 9 in. below surface of water, in Mar. or Ap. *Temp.* Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Culture* of hardy species (*L. Humboldtii*): *Compost*, two parts loam & one part leaf-mould. *Position*, in sunny shallow ponds, or in tubs sunk in ground. *Plant*, 6 in. below surface of water, in Mar. or Ap. In cold districts plants are best removed into greenhouse & kept in tub of water during winter. *Propagate* by seeds sown in soil below water in Mar. or Ap.; division of plants in Ap.

Linaria (Toad-flax, Ivy-wort, Mother o' Thousands, Mother o' Millions, Oxford Weed, Penny-wort, Butter & Eggs, Eggs & Bacon, Eggs & Butter, Dragon Bushes, Buttered Haycocks).—*Ord.* Scrophulariacæ. Hardy shrubby or trailing perennial herbs & annuals. *Nat.* Europe (Britain), Asia Minor, Morocco. *Int.* (foreign species) 1641. *Ht.* 1 in. to 4 ft. *Species* cultivated, about 8 perennials, 5 annuals. *Flowers*, violet, blue, purple, white, yellow; May to Oct. *Culture* of perennial species: *Soil*, ordinary, mixed with grit or old mortar. *Position*, moist rockeries or margin of borders for *L. alpina*, *L. pilosa*, *L. crassifolia*, & *L. organifolia*; sunny or shady walls for *L. cymbalaria*; open sunny borders for *L. dalmatica*, *L. purpurea*, *L. vulgaris*, & *L. triornithophora*. *Plant*, Oct., Nov., Mar., or Ap. *Culture* of annual species: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep in patches in Ap., for flowering in sum.; in Aug., for flowering in spring. *L. tristis*, a pretty dwarf annual for beds or rockeries. *Pot culture* of *L. cymbalaria*: *Compost*, two parts loam, one part of equal proportions of dried cow manure, old mortar, & sand. *Sow* seeds $\frac{1}{8}$ in. deep in 3 or 5 in. pots in Mar. or Ap. *Place* pots in shady window or greenhouse until seedlings appear, then remove to light & suspend in a basket. *Water* moderately at first, freely afterwards; keep nearly dry during winter. This species is a perennial. *Propagate* perennial species by seeds sown in ordinary soil in sunny position outdoors in Sept., Mar., or Ap.; division in Oct. or Ap.

Lindelofia (Himalayan Lung-wort).—*Ord.* Boraginacæ. Hardy perennial herb. *Nat.* Cashmere. *Int.* 1839. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, purple, red; May to Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar., or Ap. *Cut* off flower stems, Sept. *Apply* weak liquid manure occasionally during flowering period, or dig decayed manure into surface of soil round base of plants in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil in sunny position outdoors in Ap. or May, transplanting seedlings following Aug. or Sept. for flowering the next year; division of roots in Mar.

Linden Tree (*Tilia europæa*)—see *Tilia*.

Lindera (Benjamin Bush, Spice Bush).—*Ord.* Lauracæ. Hardy flowering tree. Deciduous. *Nat.* N. America. *Int.* 1683. *Ht.* 6 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow, appearing before the leaves; Mar. *Soil*, ordinary. *Position*, open sunny shrubberies or borders. *Plant*, Oct. to Feb. *Prune* into shape when necessary after flowering. *Propagate* by cuttings of shoots, 6 to 8 in. long, inserted in sandy soil in shady sheltered position outdoors, Oct. to Nov.; layering in Sept. or Oct.

Lindsæa.—*Ord.* Filices. Stove evergreen ferns. *Nat.* W. Indies, Malayan Archipelago, Brazil, French Guiana. *Ht.* 6 to 24 in. *Species* cultivated, about 6. *Fronds*, feather, kidney, or arrow-shaped. *Compost*, two parts turfy loam, one part lumpy peat, & one part equal proportions of broken crocks, charcoal, & sand. *Position*, moist shady part of stove, in wardian case, or under bell-glasses. *Pot* very firmly in well drained pots, Feb. or Mar. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. *Propagate* by spores sown on fine sandy peat, in well drained pans under bell-glass, in temp. 70° to 80°, at any time.

Lindsaya.—An alternative method of spelling *Lindsæa*, which see.

Ling (*Calluna vulgaris*)—see *Calluna*.

Ling Heath (*Calluna vulgaris*)—see *Calluna*.

Linnæa (Twin-flower).—*Ord.* Caprifoliacæ. Hardy trailing flowering shrub. Evergreen. *Nat.* N. of Europe (Scotland), Asia, & America. *Species* cultivated, 1. *Flowers*, white, pink, fragrant; May to July. *Soil*, sandy peat. *Position*, moist rockeries or banks, or as edgings to beds of N. American shrubs. *Plant*, Oct. to Mar. *Water* freely in dry weather. *Pot culture*: *Compost*, two parts peat & one part leaf-mould & little silver sand. *Position*, well drained pots, with shoots trained to trellises or stakes, or suspended in baskets in cool or unheated greenhouse or frame. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by division of plants in Oct. or Mar.

Linosyris (Goldilocks).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Northern Hemisphere (Britain). *Ht.* 12 to 15 in. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Soil*, sandy peat. *Position*, sunny well drained borders or rockeries. *Plant*, Mar. *Propagate* by cuttings of shoots of current year's growth inserted in sandy peat under bell-glass in temp. 55° in June, July, or Aug. Modern botanists place this plant in the genus *Chrysocoma*.

Lippia.—Modern generic name for *Aloysia* (Lemon-scented Verbena), which see.

Linseed Oil-plant (*Linum usitatissimum*)—see *Linum*.

Linum (Flax, Linseed Oil-Plant).—*Ord.* Linacæ. Hardy annuals, herbaceous perennials & greenhouse shrubs. *Nat.* Europe (Britain), N. Africa, Chili, New Zealand, Caucasus. *Int.* (foreign species) 1739. *Ht.* 6 in. to 4 ft. *Species* cultivated, 2 annuals, 5 perennials; 6 hardy & 1 greenhouse shrubs. *Flowers*, yellow, blue, rose, white; May to Aug. & (*L. trigynum*) Oct. to Feb. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep in Ap. in lines or masses where plants are required to flower. *Culture of perennial species*: *Soil*, good ordinary. *Position*, sunny rockeries, borders, or banks. *Plant*, Oct. to Dec. or Feb. to Ap. *Culture of hardy shrubby species*: *Soil*, sandy loam, leaf-mould, peat, & sand. *Position*, warm sheltered rockeries or borders. *Plant*, Oct. or Nov. *Prune* straggly shoots into shape, Mar. or Ap. *Protect* in severe weather with covering of bracken, straw or leaves. *Culture of greenhouse species* (*L. trigynum*): *Compost*, equal parts loam & peat, little sand. *Pot*, Mar. or Ap. *Prune* previous year's shoots to within 1 in. of their base in Feb. or Mar. *Position*, warm greenhouse, Sept. to June; cold sunny frame, June to Sept. *Water* moderately,

Oct. to Mar.; freely other times. *Syringe* twice daily, Feb. to Sept. *Apply* weak stimulants occasionally when in flower. *Temp.*, Sept. to Feb., 55° to 65°. Feb. to June, 65° to 75°. *Nip* off points of young shoots in June to induce bushy growth. *Culture of L. grandiflorum in pots*: *Soil*, two parts good mould, one part decayed manure & sand. *Sow* seeds $\frac{1}{2}$ in. deep in Ap. in 6 in. pots, filled with above compost to within $\frac{1}{2}$ in. of rim. *Place* pots in cold frame or shady window till seedlings appear, then remove to full light. *Water* moderately at first, freely afterwards. *Apply* weak stimulants when in flower. *Support* shoots by inserting small twiggy branches between them. *Sow* again in July, plunging pots to rim in garden soil, and keep well supplied with water to flower in autn. *Propagate* perennial species by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., also by division in Mar. or Ap.; shrubby species by cuttings of young shoots inserted in sandy soil under bell-glass outdoors in sum.; greenhouse species (*L. trigynum*) by cuttings of shoots two to three inches long, inserted in sandy soil under bell-glass in temp. 65° to 75° in Ap. or May.

Lion's-ear (*Leonotis Leonurus*)—see *Leonotis*.

Lion's-foot (*Leontopodium alpinum*)—see *Leontopodium*.

Lion's-leaf (*Leontire leontopetalum*)—see *Leontice*.

Lion's-tail (*Leonotis leonurus*)—see *Leonotis*.

Lion's-turnip (*Leontice leontopetalum*)—see *Leontice*.

Lion's-mouth (*Antirrhinum majus*)—see *Antirrhinum*.

Liquidambar (Bilsted, Copalm Balsam-tree, Sweet Gum-tree).—*Ord.* Hamamelidaceæ. Hardy deciduous tree. *Orn.* foliage. *Nat.* N. America. *Int.* 1681. *Ht.* 20 to 50 ft. *Species* cultivated, 1. *Flowers*, greenish yellow, inconspicuous; spring. *Leaves*, hand-shaped, downy, very fragrant. *Soil*, deep moist loam. *Position*, sheltered in shrubberies or on lawns. *Plant*, Oct. to Dec. *Prune* into shape when necessary in Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil outdoors, Oct., Nov., Mar. or Ap., transplanting seedlings two to three years afterwards; layering shoots, Sept. to Nov.

Liquorice-plant (*Glycyrrhiza glabra*)—see *Glycyrrhiza*.

Liriodendron (Tulip-tree, Lyre-tree, Saddle-tree, Western Poplar, Yellow Poplar).—*Ord.* Magnoliaceæ. Hardy deciduous tree. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1668. *Ht.* 50 to 160 ft. *Species*, cultivated, 1. *Flowers*, large, pale green, yellow, orange, very fragrant; June to Aug. *Leaves*, saddle-shaped, bright green. *Soil*, sandy loam, *Position*, sunny, sheltered shrubberies or as specimen on lawns. *Plant*, Oct. to Feb. *Prune* straggling shoots only into shape, Nov. or Dec. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, in moist sandy loam in sheltered position outdoors, Sept. to Nov.; layering in Oct. to Nov.

Lisianthus—*Ord.* Gentianaceæ. Greenhouse evergreen-flowering shrubs & biennial. *Nat.* New Grenada, Mexico. *Int.* 1804. *Ht.* 1 to 5 ft. *Species* cultivated, 2 shrubs, 1 biennial. *Flowers*, scarlet, purple, yellow, green; July to Sept. *Culture of shrubby species*: *Compost*, two parts peat, & one part each of loam, well-decayed manure, leaf-mould, & sand. *Position*, well drained pots in light airy part of greenhouse. *Pot*, Feb. or Mar. *Prune* slightly into shape, Feb. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *Temp.*, Mar. to Sept., 60° to 75°; Sept. to Mar. 50° to 60°. *Culture of biennial species (L. Russellianus)*: *Sow* seeds on surface of sandy peat & leaf-mould in well drained pot or pan in temp. of 60° to 70°, Feb. to Ap. *Cover* pot or pan with square of glass, & shade from bright sun & keep moderately moist. *Transplant* seedlings when they form three or four leaves singly into 2 in. pots. *Compost*, same as for shrubby species. *Plunge* pots to rims in cocoanut fibre refuse over hotbed for a few weeks, then place on shelf near glass. *Water* carefully at all times. *Transfer* into 6 or 8 in. pots following Mar. for flowering. *Temp.*, same as for shrubby species. *Propagate* shrubby species by seeds sown as directed for biennial species; cuttings of half-

ripened shoots, 2 to 3-in. long, inserted in pots of sandy peat under bell-glass in temp. 65° to 75° in sum.

Liissochilus.—Stove terrestrial orchids. *Nat.* River Congo district, Old Calabar, Natal, Cape of Good Hope. *Int.* 1818. *Ht.* 2 to 8 ft. *Species* cultivated, 4. *Flowers*, pink, rose, purple, white, yellow, fragrant; May to Oct. *Compost*, equal parts fibrous loam, leaf-mould, & silver sand. *Position*, shallow pans or well drained pots in warm moist part of stove during the growing period, & cool part when at rest. *Pot.*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keeping quite dry, Nov. to Mar. *Apply* weak liquid manure every ten days during growth. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 80° to 65°. *Growing* period, Mar. to Oct.; resting period, Oct. to Mar. *Propagate* by division of pseudo-bulbs, Feb. or Mar.

Lithospermum (Gromwell, Yellow-flowered Gromwell, Rock Gromwell, Gentian Gromwell, Purple Gromwell, Creeping Gromwell).—*Ord.* Boraginaceæ. Hardy dwarf-trailing evergreen-flowering shrubs & herbaceous perennials. *Nat.* Europe (Britain), N. America. *Int.* 1812. *Ht.*, perennial species, 6 to 18 in.; evergreen species, 12 in. *Species* cultivated, 3 evergreen; 2 herbaceous. *Flowers*, yellow, blue, red, purple; May to Oct. *Culture of evergreen species*: *Soil*, sandy or loamy. *Position*, margins of sunny borders or on ledges of sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *L. prostratum*, an excellent plant for draping stones on rockeries. *Culture of herbaceous species*: *Soil*, good ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* evergreen species by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in cold frame in Mar. or Ap., transplanting seedlings when an inch high singly into 2-in. pots & grow in frame until following spring, then planting out; cuttings of shoots of previous year's growth, two to three inches long, inserted in well drained pots of sandy soil in cold frame in Aug., Sept. or Oct.; layering shoots in Sept. Herbaceous perennials by division of roots in autn. or spring.

Lithy-tree (*Viburnum lantana*)—see Viburnum.

Litobrochia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Malay Islands, Tropical America, East Indies. *Int.* 1823. *Ht.* 18 to 30 in. *Species* cultivated, about 3. *Fronde*s, divided, feather-shaped. *Compost*, loam, leaf-mould, peat, & sand, in equal parts. *Position*, well drained pots in shady part of greenhouse. *Pot.*, Mar. or Ap. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of pans filled with sandy peat under bell-glass in temp. 70° to 80° any time of year.

Little Snow-balls (*Cephalanthus occidentalis*)—see Cephalanthus

Live-long (*Sedum telephium*)—see Sedum.

Liver Leaf (*Hepatica triloba*)—see Hepatica.

Livistona (Cabbage Palm).—*Ord.* Palmaceæ. Warm greenhouse palms. *Orn.* foliage. *Nat.* Java, Australia, China, India, Malayan Islands. *Int.* 1818. *Ht.* 5 to 15 ft. *Species* cultivated, 7. *Leaves*, large, fan-shaped. *Compost*, two parts loam, one part peat, little sand. *Position*, well drained pots in warm greenhouse, Sept. to June; outdoors or in cool greenhouse in sum. *Pot.*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Oct.; once, Oct. to Mar. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 55° to 60°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in rich light soil in temp. 80° to 90° in Feb. or Mar.

Lizard Orchis (*Orchis hircina*)—see Orchis.

Lizard's-herb (*Goniophlebium trilobum*)—see Goniophlebium.

Llavea.—*Ord.* Filices. Stove evergreen fern. *Nat.* Mexico. *Int.* 1853. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Fronde*s, large, three times divided; upper portion contracted, fertile; lower portion broad, barren. *Compost*, equal parts loam, peat, & sand. *Position*, well drained pots in shady

part of stove. *Pot*, Mar. or Ap. *Water* freely, Mar. to Sep.; moderately, Sept. to Mar. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. *Propagate* by spores sown on fine sandy peat, in well drained pans under bell-glass in temp. 70° to 80° at any time.

Lloydia (Mountain Spider-wort).—*Ord.* Liliaceæ. Hardy bulbous, flowering plant. *Nat.* Northern hemisphere (Britain). *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white & green; June. *Soil*, sandy loam, *Position*, sunny dryish borders or rockeries. *Plant*, Sept. or Oct. *Depth* for bulbs, 3 to 4 in. *Lift* & replant when unhealthy only. *Propagate* by offsets, removed & planted in Sept. or Oct.

Loasa (Chili Nettle).—*Ord.* Loasacæ. Greenhouse & half-hardy annual & perennial-climbing & twining plants. *Nat.* Chili, Lima, Ecuador, Peru. *Int.* 1822. *Ht.* 1 to 4 ft. *Species* cultivated, 10 annuals, 1 perennial. *Flowers*, red, yellow, white; June to Sept. *Outdoor culture of annual species*: Sow seeds $\frac{1}{2}$ in. deep in light mould in temp. 65° in Feb. or Mar. *Transplant* seedlings singly in 3-in. pots when 1 in. high, & grow in temp. 55° till June, then plant outdoors. *Position*, against sunny walls or fences. *Soil*, ordinary. *Indoor culture of annual species*: Sow seeds as above. *Transplant* seedlings singly into 3-in. pots, & when 6 in. high into 5-in. size, or place three in a 8-in. size. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Train* shoots round wire trellis or stakes inserted in the soil. *Water* moderately at first; freely afterwards. *Apply* stimulants occasionally to plants in bloom. *Temp.*, 55° to 65°. *Culture of p-ennial species*: *Compost*, two parts loam, one part leaf-mould & sand. *Position*, well drained pots in light part of greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* moderately, Sept. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 55° to 65°. *Propagate* perennial species by seeds sown as advised for annual species; cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring. All the species are furnished with stinging hairs, & hence should not be touched by naked hands.

Lobed-leaved Pæony (*Pæonia lobata*)—see *Pæonia*.

Lobed Prickly Shield Fern (*Polystichum lobatum*)—see *Poly-stichum*.

Lobel's Catch-fly (*Silene Armeria*)—see *Silene*.

Lobelia (Cardinal Flower, Shore Lobelia, Blue Lobelia).—*Ord.* Campanulacæ. Hardy & half-hardy annuals & herbaceous perennials. *Nat.* Mexico, Cape of Good Hope, N. America, Brazil, New South Wales, Chili, W. Indies, Central America. *Int.* (*Lobelia cardinalis*) 1626; (*L. syphilitica*) 1665; (*L. Erinus*) 1752. *Ht.* 3 in. to 2 ft. *Species* cultivated, about 4 hardy perennials; 1 half-hardy perennial; 2 annuals; varieties several. *Flowers*, scarlet, blue, & white; May to Oct. *Outdoor culture of hardy perennial species*: (*L. cardinalis*, *L. fulgens*, *L. splendens*, & *L. syphilitica*): *Soil*, ordinary rich. *Position*, sunny moist borders. *Plant*, Oct., Mar. or Ap. On cold, dampsoils all the species (except *L. syphilitica*) best lifted in Oct., placed in pots, stored in cold frame till Mar., then replanted. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould and sand. *Pot*, Oct. or Mar. *Position*, cold frame, Oct. to Mar.; cool greenhouse, Mar. till past flowering, then outdoors. *Water* very little, Oct. to Mar.; freely afterwards. *Apply* stimulants, May to Aug. *Culture of half-hardy perennial species* (*L. Erinus*, Dwarf-Bedding Lobelia): *Soil*, ordinary. *Position*, pots in greenhouse heated to temp. 55°, Oct. to June; as edgings to beds, &c., outdoors, June to Oct. *Plant*, June, 3 to 6 in. apart. *Lift* plants in Sept., place in small pots, & store in greenhouse to furnish cuttings in spring. *Cut* off flower stems a fortnight before lifting. *Pot culture of L. Erinus*: *Compost*, equal parts good soil, leaf-mould and sand. *Position*, dwarf kinds in 4 or 5-in. pots, & trailing kinds in pots or baskets, in shady or sunny greenhouse or window. *Pot*, Mar. to July. *Water* freely in sum.; moderately other times. *Apply* stimulants to plants in flower. *Culture of annual species* (*L. gracilis* & *L. ramosa*):

Sow seeds in Feb. or Mar., on surface of fine mould, & cover with slight sprinkle of fine sand, & place in temp. 65° to 75° . Transplant seedlings when third leaf has formed 1 in. apart in ordinary light soil in shallow boxes, & when leaves meet, transplant 2 in. apart. Remove plants to cold frame in May, and plant outdoors in June. *Pot culture* same as for *L. Erinus*. Annual species very pretty trailing plants for baskets, vases, &c. Propagate hardy perennial species by seeds sown $\frac{1}{4}$ in. deep in sandy loam & leaf-mould in cold frame in Sept. or Oct., or in temp. 55° in Mar.; cuttings of shoots inserted in small pots in temp. 55° in spring; division in Mar. Half-hardy species by seeds sown, as advised for *L. gracilis*; cuttings of young shoots inserted in sandy soil in temp. 65° to 75° in spring; division in Mar. or Ap.

Loblolly Bay-tree (*Gordonia lasianthus*)—see *Gordonia*.

Lobster-flower (*Poinsettia pulcherrima*)—see *Poinsettia*.

Lockin Gowan (*Trollius europæus*)—see *Trollius*.

Locks-&Keys (*Dielytra spectabilis*)—see *Dielytra*.

Locust Tree (*Robina pseudacacia*)—see *Robinia*.

Loddon Lilies (*Leucojum æstivum*)—see *Leucojum*.

Lofty Bhotan Pine (*Pinus excelsa*)—see *Pinus*.

Loiseleurea (Alpine Azalea, Trailing Azalea).—*Ord. Ericacææ*. Hardy trailing flowering shrub. Evergreen. *Nat.* Northern hemisphere (Scotland). *Species* cultivated, 1. *Flowers*, rose; July to Aug. *Soil*, deep sandy peat. *Position*, open moist rockeries. *Plant*, Sept. to Nov. *Propagate* by layering shoots, Sept. to Nov. This plant is also known as *Azalea procumbens*.

Lomaria (Deer Fern).—*Ord. Filices*. Tree & dwarf evergreen ferns. Stove, greenhouse, & hardy. *Nat.* Britain, Java, Ceylon, New Caledonia, Chatham Island, Australia, Brazil, Chili, W. Indies, Mexico, S. Africa. *Int.* (foreign species) exact date unknown, probably 1810. *Ht.* 6 in. to 3 ft. *Species* cultivated, 4 stove, 21 greenhouse, 2 hardy; varieties several. *Fronde*, feather-shaped. *Culture of stove species*: *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, pots, beds, or rockeries in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* abundantly, Ap. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 80° ; Sept. to Mar., 60° to 70° . *Syringe* tree species twice daily, Feb. to Sept. *Culture of greenhouse species*: *Compost*, as above. *Pot*, Mar. or Ap. *Position*, pots, beds, or rockery in shady part of house. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringe* as advised for stove species. *Temp.*, Mar. to Sept., 55° to 65° ; Sept. to Mar., 50° to 55° . *Culture of hardy species* (*L. alpina* & *L. spicata*): *Soil*, two parts sandy peat, one part loam & pounded limestone. *Position*, shady rockeries. *Plant*, Oct. or Ap. *Water* freely in dry weather. *Protect L. alpina* in very severe weather. *Propagate* by spores sown on fine sandy peat in well drained pans in temp. 80° any time; dwarf species by division of plants, Oct. or Ap.

Lomatia (Native Holly of Australia).—*Ord. Proteacææ*. Greenhouse evergreen shrubs. Orn. foliage. *Nat.* Australia, Chili. *Int.* 1792. *Ht.* 2 to 10 ft. *Species* cultivated, 4. *Leaves*, feather & egg-shaped, green or glaucous, prickly. *Compost*, equal parts peat, loam, & sand. *Position*, well drained pots in sunny airy greenhouse. *Pot*, Feb. to Ap. *Prune* into shape when necessary, Feb. *Water* moderately, Sept. to Ap., freely afterwards. *Ventilate* freely, Ap. to Sept., moderately afterwards. *Temp.*, Mar. to Oct., 55° to 65° ; Oct. to Mar., 45° to 55° . *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 60° to 70° , June to Sept.

Lombardy Poplar (*Populus fastigiata*)—see *Populus*.

Lonas.—*Ord. Compositæ*. Hardy annual. *Nat.* Barbary. *Int.* 1686. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, yellow, July to Oct.

Soil, ordinary. *Position*, sunny borders or beds. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in Ap. in patches or lines where plants are required to flower.

London Pride (*Saxifraga umbrosa*)—see Saxifraga.

London Tufts (*Dianthus barbatus*)—see Dianthus.

Long-bearded Hawk-weed (*Hieracium longipilum*)—see Hieracium.

Long-bracted Orchis (*Orchis longibracteata*)—see Orchis.

Long-flowered Bell-flower (*Campanula nobilis*)—see Campanula.

Long-flowered Phlox (*Phlox longiflora*)—see Phlox.

Long-flowered Tobacco-plant (*Nicotiana longiflora*)—see Nicotiana.

Long-flowering Forget-me-not (*Myosotis semperflorens*)—see Myosotis.

Long-fruited Almond Tree (*Amygdalus communis macrocarpa*)—see Amygdalus.

Long-leaved Ash (*Fraxinus americana longifolia*)—see Fraxinus.

Long-leaved Bear's-Breech (*Acanthus longifolius*)—see Acanthus.

Long-leaved Bell-flower (*Campanula longifolia*)—see Campanula.

Long-leaved Butter-wort (*Pinguicula longifolia*)—see Pinguicula.

Long-leaved Cucumber-tree (*Magnolia Fraseri*)—see Magnolia.

Long-leaved Pine (*Pinus australis*)—see Pinus.

Long-leaved Rock-rose (*Cistus longifolius*)—see Cistus.

Long-leaved Saxifrage (*Saxifraga longifolia*)—see Saxifraga.

Long-leaved Star-wort (*Aster longifolius*)—see Aster.

Long-leaved Sun-dew (*Drosera longifolia*)—see Drosera.

Long-leaved Wallflower (*Cheiranthus longifolius*)—see Cheiranthus.

Long-petalled Iris (*Iris longipetala*)—see Iris.

Long-pod Bean (*Faba vulgaris ensiformis*)—see Faba.

Long-rooted Crane's-bill (*Geranium macrorrhizum*)—see Geranium.

Long-runner House-leek (*Sempervivum flagelliforme*)—see Sempervivum.

Long-spined Honey-Locust-tree (*Gleditschia macrospina*)—see Gleditschia.

Long-spined Thorn (*Crataegus macrantha*)—see Crataegus.

Long-spined Thorn-apple (*Datura ferax*)—see Datura.

Long-spurred Algerian Orchis (*Orchis longicalcarata*)—see Orchis.

Long-spurred Butter-wort (*Pinguicula caudata*)—see Pinguicula.

Long-spurred Orchid (*Angræcum sesquipedale*)—see Angræcum.

Long-spurred Valerian (*Centranthus macrosiphon*)—see Centranthus.

Long-stalked Poppy-Mallow (*Callirrhoe pedata*)—see Callirrhoe.

Long-stalked Violet (*Viola pedunculata*)—see Viola.

Long-styled Bell-flower (*Campanula macrostyla*)—see Campanula.

Long-tailed Lady's-Slipper (*Oypripedium caudatum*)—see Cypripedium.

Long-twigged Broom (*Genista virgata*)—see Genista.

Looking-glass Orchis (*Ophrys spheculum*)—see Ophrys.

Lonicera (Honeysuckle).—*Ord.* Caprifoliaceæ. *Hardy & half-hardy*, erect & twining, deciduous & evergreen shrubs. Flowering & orn. foliage. *Nat.* Europe (Britain), N. America, Chili, China, Japan, Ind a. *Int.* (foreign species) 1629. *Species* cultivated, 9 deciduous twiners, 3 evergreen twiners, 1 variegated variety; 7 deciduous erect, 2 evergreen erect. *Flowers*, yellow, purple, white, red, crimson, scarlet, rose, fragrant; Feb. to Oct. *Culture of twining species*: *Soil*, rich ordinary. *Position*, S. or W. walls or fences for evergreen kinds; fences, walls, or arbors in any aspect for decidu-

ous kinds. *Plant*, Oct. to Ap. *Top-dress* with well decayed manure in Mar. or Ap. *Prune* *L. fragrantissima* slightly after flowering; other kinds in Feb., shortening shoots of previous year's growth to within 1 or 3 in. of base. *Water* freely in dry weather. *Apply* weak liquid manure occasionally in sum. to healthy plants. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould or well decayed manure & sand. *Pot*, Oct. to Dec. *Position*, cold frame or greenhouse, Nov. to Feb.; warm greenhouse, Feb. to June; sunny place outdoors, June to Nov. *Water* freely, Feb. to Oct.; moderately afterwards. *Apply* stimulants occasionally when in flower. *Prune* previous year's shoots to within 1 or 2 in. of base in June. *Culture* of *L. sempervirens* in greenhouse: *Compost*, same as for pot culture. *Plant*, Oct. to Mar. *Position*, small well drained bed, or tub with shoots trained up rafter or trellis. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Culture* of erect species: *Soil*, ordinary. *Position*, open or shady shrubberies. *Plant*, Oct. to Mar. *Prune* slightly, Dec. to Feb. *Mulch* with decayed manure, Feb. or Mar. *Propagate* by cuttings of firm shoots, 8 in. long, inserted in sandy soil in sheltered position outdoors in Oct. & Nov.; or in cocoanut-fibre refuse & silver sand in pots in cold frame or greenhouse; layering shoots, Aug. to Nov.

Loose-branched Star-wort (*Aster laxus*)—see Aster.

Loose-flowered Cotonaster (*Cotoneaster laxiflora*)—see Cotonaster.

Loose-flowered Holly (*Ilex laxiflora*)—see Ilex.

Loose-flowered Orchis (*Orchis laxiflora*)—see Orchis.

Loose-flowered Rock-rose (*Cistus laxus*)—see Cistus.

Lopezia.—*Ord.* Onagraceæ. *Hardy annual.* *Nat. Mexico.* *Int.* 1804. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, rosy purple; July to Sept. *Soil*, ordinary. *Position*, sunny borders. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in Ap. in patches or lines where plants are required to flower, or in light soil in temp. 55° to 65° in Mar., transplanting outdoors in May.

Lophanthus (Giant Anise Hyssop).—*Ord.* Labiateæ. *Hardy perennials.* *Nat. N. America.* *Int.* 1692. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, blue, purple; July to Sept. *Leaves*, fragrant. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. to Ap. *Cut* down flower stems, Nov. *Mulch* with decayed manure in Ap. *Propagate* by division of roots in Oct. or Ap.

Lophospermum.—*Ord.* Scrophulariaceæ. *Half-hardy climbing perennials.* *Nat. Mexico.* *Int.* 1834. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, rosy purple; May to Oct. *Indoor culture*: *Compost*, equal parts loam & leaf-mould & little sand. *Pot*, Mar. to May. *Position*, well drained pots with shoots draping over front of stage, or trained up trellis, walls, or rafters, or suspended in baskets in sunny greenhouse. *Water* freely, Mar. to Sept.; moderately Sept. to Nov.; keep nearly dry afterwards. *Apply* stimulants to healthy plants in flower only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Outdoor culture*: *Soil*, ordinary rich. *Position*, against S. walls or in sunny vases or window boxes. *Plant*, June. *Lift*, repot, & place in greenhouse in Sept. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary light soil in temp. of 60° to 70° in Mar., transplanting seedlings when 1 in. high singly into 2 or 3-in. pots; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, Mar. to Aug.

Lopper Gowan (*Trollius europæus*)—see Trollius.

Loquat (*Photinia japonica*)—see Photinia.

Lord Anson's Pea (*Lathyrus magellanicus*)—see Lathyrus.

Lord Harrington's Yew (*Cephalotaxus pedunculata*)—see Cephalotaxus.

Lord Howe's Island Wedding-Flower (*Iris Robinsoniana*)—see *Iris*.

Lot-tree (*Pyrus aria*)—see *Pyrus*.

Lotus (Bird's-foot Trefoil).—*Ord.* Leguminosæ. Greenhouse & hardy perennials. *Nat.* Europe (Britain), Cape Verde Islands, Teneriffe, Australia. *Int.* (foreign species) 1640. *Ht.* 6 in. to 3 ft. *Species* cultivated, 1 hardy herbaceous perennial, 4 greenhouse perennial herbs. *Flowers*, yellow, orange, pink, purple, red, scarlet; May to Oct. *Culture of greenhouse species*: *Compost*, two parts sandy loam, one part leaf-mould, half part each pounded charcoal & sand. *Pot*, Feb. or Mar. *Position*, pots in light airy part of sunny greenhouse. *Water* moderately, Mar. to Sept.; very little afterwards. *Apply* weak stimulants to healthy plants in flower. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Culture of hardy species* (*L. corniculatus*): *Soil*, ordinary rich. *Position*, sunny rockeries or elevated beds. *Plant*, Mar. or Ap. This species makes a very pretty rock plant. *Propagate* greenhouse species by seeds sown $\frac{1}{4}$ in. deep in sandy soil in well drained pot or pan in temp. 55° to 65° in Mar. or Ap.; cuttings of shoots inserted in well drained pots of sandy soil under bell-glass in temp. 55° to 65° in sum. Hardy species by seeds sown $\frac{1}{4}$ in. deep in Ap. where plants are required to grow division of plants in Mar. or Ap.

Lotus (*Nymphaea lotus*)—see *Nymphaea*.

Lotus-tree (*Diospyros lotus*)—see *Diospyros*.

Louse-berry-tree (*Euonymus europæus*)—see *Euonymus*.

Love-apple (*Lycopersicum esculentum*)—see *Lycopersicum*.

Love Grass (*Eragrostis elegans*)—see *Eragrostis*.

Love-in-a-mist (*Nigella damascena*)—see *Nigella*.

Love-in-a-puzzle (*Nigella damascena*)—see *Nigella*.

Love-in-idleness (*Viola tricolor*)—see *Viola*.

Love-lies-bleeding (*Amarantus caudatus*)—see *Amarantus*.

Love Pea (*Abrus precatorius*)—see *Abrus*.

Love-tree (*Cercis siliquastrum*)—see *Cercis*.

Low Birch (*Betula pumila*)—see *Betula*.

Luckie's Mutch (*Aconitum Napellus*)—see *Aconitum*.

Luculia.—*Ord.* Rubiaceæ. Greenhouse evergreen shrub. Flowering & orn. foliage. *Nat.* Himalayas, Khasia Mountains. *Int.* 1823. *Ht.* 8 to 16 ft. *Species* cultivated, 2. *Flowers*, rose, white, very fragrant; May to Dec. *Leaves*, oval, deep green & glabrous. *Compost*, equal parts fibrous loam, peat, charcoal, & sand. *Position*, in large well drained pots, or preferably in beds 2 to 3 ft. wide & 18 in. deep. *Put* 6 in. of drainage into latter. *Pot* or plant, Feb., Mar. or Ap. *Prune* shoots moderately after flowering to within 2 or 3 in. of base. *Water* freely, Ap. to Nov.; withhold entirely afterwards. *Syringe* foliage twice daily, Ap. to Sept. *Temp.*, Ap. to Sept., 60° to 70°; Sept. to Dec., 55° to 65°; Dec. to Ap., 45° to 55°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pans of light sandy soil in temp. of 60° to 70° in Feb., Mar. or Ap.; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 70° to 80° in June or July. Seedlings flower when 3 to 5 years old.

Lunaria (Common Honesty, Money Flower, Satin Flower, Satin Leaves, White-flowered Honesty, Perennial Honesty).—*Ord.* Cruciferae. Biennial & perennial flowering & orn. fruiting plants. *Nat.* Central & Southern Europe. *Int.* 1595. *Ht.* 18 in. to 3 ft. *Species* cultivated, 1 biennial, 1 perennial; varieties several. *Flowers*, lilac, white, purple, fragrant; May to Aug. *Seed-pods* flat, oval, containing a satiny partition; very useful for drying for winter decorations. *Culture of biennial species* (*L. biennis*): *Soil*, ordinary. *Position*, partially shaded borders or margins of shrubberies. *Plant*, Aug. to Nov., singly or in groups of 3 or 6. *Discard* plants after flowering. *Culture of perennial species*: *Soil*, light rich ordinary. *Position*,

partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* biennial species by seeds sown in shallow drills or patches outdoors in sunny position in Ap., transplanting seedlings when third leaf is formed 6 in. apart each way; perennial species by seeds sown similarly, or by division of roots in Mar. or Ap.

Lunary (*Botrychium Lunaria*)—see *Botrychium*.

Lung-flower (*Gentiana pneumonanthe*)—see *Gentiana*.

Lung-wort (*Pulmonaria officinalis*)—see *Pulmonaria*.

Lupine (*Lupinus polyphyllus*)—see *Lupinus*.

Lupinus (*Lupine* or *Lupin*).—*Ord.* Leguminosæ. Hardy shrubby & herbaceous perennials & annuals. Flowering and orn. foliage. *Nat. S. & N. America & S. Europe.* *Int.* 1596. *Ht.* 6 in. to 5 ft. *Species* cultivated, 8 shrubby perennials; about 6 herbaceous perennials; 3 annuals; varieties numerous. *Flowers*, white, blue, yellow; Ap. to Oct. *Leaves*, hand-shaped, green. *Culture of shrubby perennials*: *Soil*, sandy loam. *Position*, sunny rockeries or open sheltered borders. *Plant*, Oct. or Ap. *Protect*, Nov. to Ap. with layer of bracken or litter around base of plant. *Culture of herbaceous perennials*: *Soil*, ordinary rich. *Position*, open sunny or partially-shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure in Ap. *Cut down* flower stems in Oct. *Culture of annual species*: *Sow* seeds $\frac{1}{2}$ in. deep & 1 in. apart in Ap. in patches where required to flower. *Thin* seedlings in May to 2 or 3 in. apart. *Remove* seed pods directly they form to ensure continuous display of flowers. *Apply* stimulants when in flower. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap., transplanting seedlings into flowering positions, June to Aug.; division of plants in Ap.

Lusmore (*Digitalis purpurea*)—see *Digitalis*.

Lust-wort (*Drosera rotundifolia*)—*Drosera*.

Lycaste.—*Ord.* Orchidaceæ. Warm greenhouse, evergreen, & deciduous orchids. *Nat.* Tropical America, W. Indies. *Int.* 1790. *Ht.* 6 to 12 in. *Species* cultivated, 7; varieties several. *Flowers*, yellow, purple, white, red, crimson, rose, fragrant; Nov. to June. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well-drained pots, pans, or baskets, in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov., moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting-room or cool conservatory when in flower. *Propagate* by division of pseudo-bulbs immediately after flowering.

Lychnis (*Campion*, *Lamp-flower*, *Flower of Constantinople*, *Flower of Bristol*, *Gardener's Delight*, *Gardener's Eye*, *Jerusalem Cross*, *Scarlet Lychnis*, *Devil's Flower*, *Crow-flower*, *Crow-soap*, *Marsh Gilliflower*, *Meadow Pink*, *Ragged Robin*, *Jupiter's Flower*, *Cockle Flower*, *Corn Pink*, *German Catchfly*, *Lime-wort*, *Rose-of-Heaven*, *Rose Campion*).—*Ord.* Caryophyllaceæ. Hardy alpine & border perennials. *Nat.* S. Europe, Britain, Alps, Siberia, China, Algiers, Bolivia. *Int.* (foreign species), 1593. *Ht.* 3 in. to 4 ft. *Species* cultivated, 10; varieties several. *Flowers*, single & double, purplish rose, scarlet, flesh, rose, white, vermilion, red; Mar. to Oct. *Soil*, light rich loam for *L. alpina* & *L. Lagasce*; ordinary for other species. *Position*, sunny well-drained rockery for *L. alpina* & *L. Lagasce*; open dryish beds, borders, or banks for other species. *Plant*, Oct. to Dec. & Feb. to May. *Cut down* flower stems of *L. chalcidonica* & *L. vespertina* in Oct. or Nov. *Top-dress* border species with well-decayed manure in Mar. or Ap. *Apply* weak liquid manure occasionally to border species when in flower. *Lift* & replant border species every other year. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in

sunny position outdoors in Mar. or Ap., transplanting seedlings into flowering position, Aug. to Nov.; division of plants, Sept. to Dec. & Feb. to Ap.

Lycium (Box-thorn, African Tea-tree, Asses' Box-tree, Prickly Box, Barbary Box-thorn, Duke of Argyll's Tea-tree, Matrimony-vine, European Box-thorn).—*Ord.* Solanaceæ. Hardy erect & climbing flowering shrubs. Deciduous. *Nat.* N. Africa, N. Asia, S. Europe, China. *Int.* 1696. *Ht.* 6 to 12 ft. *Species* cultivated, 4. *Flowers*, violet, red, purple, yellow; May to Aug.; succeeded by purplish white or orange-scarlet berries. *Branches* more or less spiny. *Soil*, ordinary. *Position*, well drained borders with shoots trained to fences, arbors, porches, pergolas, verandas, trellises, or walls in any aspect; also suitable for hedges. *Plant*, Oct. to Feb. *Prune* Oct. to Feb., removing weak shoots entirely & shortening vigorous ones a little. *Hedge culture*: Trench ground 2 spits deep & 3 ft. wide. *Plant* 12 in. apart in single rows, Oct. to Feb. *Trim* into shape, June & July. *L. europæum* an excellent climber for positions near the sea. *Propagate* by cuttings of firm shoots 6 to 8 in. long, inserted in ordinary soil in shady position in Sept. or Oct.; layering shoots, Sept. to Nov.; by removing suckers with roots attached, Oct. to Feb.

Lycopersicum (Love Apple, Tomato).—*Ord.* Solanaceæ. Tender annual. *Nat.* S. America. *Int.* 1596. *Ht.* 2 to 6 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, greenish yellow; all the year round. *Fruit*, variously-shaped, red or yellow; edible. *Pot culture*: *Compost*, two parts decayed turfy loam, one part well decomposed manure. *Position*, warm light greenhouse, Feb. to June; cold sunny greenhouse, June to Oct. *Sow* seeds in Jan. in temp. 75° for warm greenhouse; in Mar. in temp. 65° for cold greenhouse. *Depth* for sowing seeds, $\frac{1}{2}$ in. *Ordinary* light mould suitable for sowing seeds in. *Transfer* seedlings when three leaves have formed singly into 2-in. pots, or two inches apart in larger pots or boxes; into 6-in. pots when 6 in. high; into 8 or 10-in. pots when 12 in. high. *Drain* pots well & pot firmly. *Fill* pots two thirds full only with compost. *Train* plants with one stem only. *Rub* off all side shoots. *Water* sparingly till fruit forms. *Syringe* twice daily in fine weather, except when in flower. *Fertilize* flowers at mid-day by tapping them with a stick. *Apply* liquid or artificial manures when fruit has set. *Top-dress* when bearing freely with compost of two parts loam & one part decayed manure, adding tablespoonful of superphosphate to every bushel. *Ventilate* freely when in flower. *Dry* atmosphere essential to ensure good set. *Temp.* for warm greenhouse, Feb. to June, 55° to 65°. *Culture in boxes*: *Size* of boxes for single plants 10 in. square; for two plants 12 in. wide, 9 in. deep, 18 in. long; for four plants 18 in. wide, 2 ft. long, 9 in. deep; for eight plants 18 in. wide, 36 in. long, 12 in. deep. *Half-fill* with compost only, until fruit sets, then top-dress. *Cultural* details same as for pots. *Culture in beds*: *Compost*, decayed turfy soil only; no manure. *Place* compost in ridge 18 in. wide & 12 in. high in centre on staging near front of house, or in beds on floor 2 ft. wide & 18 in. deep, enclosed with dry bricks or turves. *Plant* 12 in. apart for single stems; 3 ft. apart for three or more stems. *Remove* all side shoots from single-stem, also any that issue from the sides of the three-stemmed plants. *Water* very little till fruit has set, then freely. *Apply* stimulants only when fruit has formed. *Fertilize* as for pot plants. *Ventilate* freely when temp. reaches 90°. *Top-dress* when several bunches of fruit have formed, with similar compost to that advised for pot plants. *Temp.*, Feb. to June, 55° to 65°. *Culture in frames*: *Compost*, as above. *Plant* in heated frame in Feb., Mar. or Ap.; in cold frame, June. *Allow* one plant to each light, & train to three stems, these resting on trellis or branches near glass. *Water* moderately until fruit forms, then freely. *Ventilate* freely during middle of day. *Shade* not required. *Stimulants*, top-dressing & training as above. *Temp.* for heated frame, 55° to 65°. *Syringing* unnecessary. *Winter culture*: *Compost*, as above. *Position*, pots preferably or beds. *Sow* seed in June. *Plant* or pot, Aug. or Sept. *Water* sparingly.

Apply stimulants only to plants bearing freely. Train to one or three stems. Dry atmosphere necessary to ensure flowers setting. Temp., 55° to 65°. Outdoor culture: Soil, ordinary, not recently manured. Position, against S. or W. walls or fences, or in open. Plant, June, 12 in. apart against walls & 2 ft. apart each way in open. Train to one stem, removing all side shoots. Place stout stakes to plants in open. Apply stimulants when fruit has set. Artificial manures for tomatos: 1. Common salt 3 lb., superphosphate 1½ lb., nitrate of soda 1½ lb., kainit 1 lb., to be applied in a mixed state to square rod outdoors, or at the rate of 2 oz. to each plant in beds, or ½ oz. to each plant in a 10-in. pot, when fruit has set (Sanders); 2. Kainit 1½ lb., sulphate of ammonia 2½ lb., sulphate of iron 1½ lb., superphosphate 6 lb., to be applied as advised for No. 1 formula (Griffiths). Liquid artificial manures: 1. 1 oz., No. 1, solid formula, dissolved in 3 gall. of water & applied every three days undiluted; 2. Sulphate of ammonia 1 oz., sulphate of iron 1 oz., superphosphate 1 oz. dissolved in a gallon of water, & applied as directed for No. 1 (Griffiths); 3. Peruvian guano 1 oz. dissolved in a gallon of water; 4. Nitrate of soda ½ oz. dissolved in 2 gall. of water. No. 3 & 4 to be applied every four days to plants carrying heavy crops only. Plants should bear their first fruit when 11 weeks old. Average yield of fruit: Single-stemmed plant in 10-in. pot 10 to 15 lb., in beds 12 to 20 lb.; outdoors, 6 to 8 lb. Triple stemmed, 8 to 15 lb. Propagate by seeds sown ½ in. deep in ordinary light soil in temp. 65° to 75° as above advised; by cuttings, inserted in ordinary soil in temp. 65° to 75° at any time.

Lycopodium (Club-moss, Cypress-moss, Heath Cypress, Savin-leaved Club-moss, Buck-grass, Buck-horn Moss, Stag's horn Moss, Wolf's Claw, Ground Pine, Moon-fruit Pine, Shining Club-moss, Small Alpine Club-moss, Fir-moss, Tree-moss).—*Ord.* Lycopodiaceæ. Stove, greenhouse & hardy perennial mosses. *Orn.* foliage. *Nat.* Northern hemisphere (Britain, East Indies, New Zealand. *Ht.* 4 to 9 in. *Species* cultivated, 5 stove, 4 greenhouse, 5 hardy. *Habit*, creeping or erect, stems clothed with scale-like, dark green leaves. *Culture of stove species: Compost*, equal parts loam, peat, limestone, & silver sand. *Position*, well drained shallow pans, under bell glass or in beds in Wardian cases. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* once or twice daily, Ap. to Sept. *Shade* from direct rays of sun. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *L. Hookeri* & *L. taxifolium* should be grown head downwards in suspended baskets. *Culture of greenhouse species: Compost*, two parts sandy peat, one part leaf-mould, charcoal, & silver sand. *Position*, well drained pans under bell-glass, or beds in Wardian cases. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Culture of hardy species outdoors (L. dendroideum & native kinds): Soil*, deep moist sandy peat. *Position*, low bed on open sunny rockery. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Culture of hardy species in Wardian cases: Compost*, two parts peat, one part leaf-mould, one part charcoal, & liberal quantity of limestone chips or tufa. *Bed* to be well drained. *Plant*, Feb. to Ap. *Water* once or twice a week, Ap. to Sept.; once a fortnight, Sept. to Dec.; once a month, Dec. to Ap. *Syringe* or dew over daily, Ap. to Oct. *Shade* from sun. *Ventilate* a little daily. *Propagate* by division, Feb. to Ap.

Lygodium (Snake's-tongue Fern, Climbing Fern, Japanese Climbing Fern, Twining String Fern).—*Ord.* Filices. Stove & greenhouse climbing ferns. Deciduous & evergreen. *Nat.* New Zealand, Hong Kong, Japan, Australia, Florida, Malay Peninsular, Polynesian Islands, China, Ceylon, Peru. *Int.* 1793. *Ht.* 3 to 30 ft. *Species* cultivated, 10; *Fronds*, slender, twining; divisions tongue or hand-shaped. *Compost*, equal parts peat, loam, sand, & charcoal. *Position*, well drained pots or beds in shade with fronds twined round sticks, pillars, string, or trellis. *Plant* or pot, Feb. to Ap.

Water freely, Feb. to Oct.; moderately afterwards. *Temp.*: Stove species, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. Greenhouse species, Sept. to Mar., 45° to 60°; Mar. to Sept. 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; division of plants at potting time.

Lycoris (Golden Lily).—*Ord.* Amaryllidaceæ. Greenhouse flowering bulbs. Deciduous. *Nat.* China, Turkestan. *Int.* 1758. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, pink, red, fragrant; appearing before foliage; June to Sept. *Compost*, two parts sandy loam, one part equal proportions of leaf-mould & cow manure. *Pot* dry bulbs, Sept. to Dec.; afterwards re-potting annually immediately after flowering. *Bury* bulbs about two-thirds of their depth. *Water* moderately from time flowers show till leaves appear, then freely; keep quite dry after leaves fade. *Temp.*, Sept. to Ap., 55° to 65°. *Place* pots from Ap. to Sept. in light sunny cool position. *Propagate* by offsets treated as bulbs. Sept. to Dec.

Lyonia.—*Ord.* Ericaceæ. Hardy-flowering shrubs. Evergreen. *Nat.* N. America, Mexico, Jamaica, Cuba. *Int.* 1748. *Ht.* 3 to 10 ft. *Species* cultivated, 3. *Flowers*, white, May to Aug. *Soil*, peaty. *Position*, moist shady borders. *Plant*, Sept. to Nov. & Feb. to Ap. *Pruning* unnecessary. *Propagate* by seeds sown on surface of sandy peat under bell-glass in shade in cold frame or greenhouse in Oct. or Ap.; layering shoots, Sept. or Oct.

Lyon's Shell-flower (*Chelone Lyoni*)—see *Chelone*.

Lyre-tree (*Liiodendron tulipiferum*)—see *Liriodendron*.

Lysimachia (Loose-strife, Creeping Jenny, Herb-two-pence, Two-penny Cress, Money-wort).—*Ord.* Primulaceæ. Hardy erect or creeping herbaceous perennials. *Nat.* Europe (Britain), N. America. *Int.* (foreign species) 1730. *Ht.* 3 in. to 3 ft. *Species* cultivated, about 9; varieties several. *Flowers*, yellow, white, purple; May to Sept. *Culture of erect species*: *Soil*, ordinary rich. *Position*, moist shady borders, margins of ponds or streams. *Plant*, Oct. to Ap. *Cut* down flower stems, Nov. *Outdoor culture of creeping species* (*L. nummularia*): *Soil*, ordinary. *Position*, moist shady rockeries or margins of beds ponds, or streams. *Plant*, Mar. to June. *Indoor culture of L. nummularia*: *Compost*, two parts good ordinary soil or loam, one part leaf-mould, decayed manure or cocoanut-fibre refuse, & one part sand. *Position*, well-drained pots or baskets suspended in shady window or cool greenhouse. *Pot*, Mar. to May. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec., keep nearly dry, Dec. to Ap. *Apply* stimulants once or twice a week, May to Aug. *L. nummularia aurea* has pretty golden foliage & is well adapted for growing in baskets, also for culture in shady or sunny window-boxes outdoors. *Propagate* erect species by division of plants, Oct. to Dec., or Mar. Creeping Jenny by division, Mar. to May.

Lythrum (Winged Loose-strife, Graefler's Loose-strife, Common-purple Loose-strife, Willow-weed, Slender-branched Purple Loose-strife).—*Ord.* Lythraceæ. Hardy herbaceous & shrubby perennial. *Nat.* N. America, S. Europe (Britain), Tauria. *Int.* (foreign species), 1776. *Ht.* 1 to 4 ft. *Species* cultivated, 4. *Flowers*, purple, red; May to Sept. *Soil*, ordinary. *Position*, moist shady borders or margins of ponds or streams. *Plant*, Oct. to Dec. or Feb. to Ap. *Cut* down flower stems in Nov. *Water* freely in dry weather. *Top-dress* with well-decayed manure, Mar. or Ap. *Pot culture of L. Graeferi*: *Compost*, two parts sandy loam, one part leaf mould or decayed manure & sand. *Position*, well-drained pots, with shoots trailing over front of stage, in cool greenhouse, or in baskets suspended in greenhouse or window. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Apply* stimulants once or twice weekly from May to Sept. *Propagate L. Graeferi* by cuttings inserted in sandy soil in cold frame or greenhouse in Aug. or Ap.; other species by division of plants, Oct. or Ap.

Mace Reed (*Typha latifolia*)—see *Typha*.

Mackarel Mint (*Mentha viridis*)—see *Mentha*.

Mackaya.—*Ord.* Acanthaceæ. Greenhouse flowering shrub. Deciduous. *Nat.* Natal. *Int.* 1869. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, lilac, purple veins; *Ap.* to June. *Compost*, two parts decayed fibrous loam, one part dried cow manure, half a part sharp silver sand. *Position*, light airy greenhouse. *Pot.* Mar. *Prune* after flowering, shortening shoots to 2 or 3 in. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep quite dry, Nov. to Mar. *Temp.*, *Ap.* to Oct., 55° to 65°; Oct. to *Ap.*, 45° to 55°. *Propagate* by cuttings inserted singly in two-inch pots filled with sandy soil, June to Aug. *Transfer* to 5-in. pots when rooted; prune closely in *Ap.*, and shift into 8-in. & 10-in. pots. *Plants* flower when two to three years old.

Macleania.—*Ord.* Vacciniaceæ. Greenhouse trailing flowering shrubs. Evergreen. *Nat.* Columbia, New Grenada. *Int.* 1848. *Species* cultivated, 2 (*M. pulchra* & *M. speciosissima*). *Flowers*, yellow, scarlet; Mar. to June. *Compost*, equal parts turfy loam, peat & sand. *Position*, well drained pots with shoots drooping over front of staging, or in suspended baskets. *Pot.* Mar. or *Ap.* *Water* freely, Mar. to Sept.; moderately afterwards. *Prune* straggling shoots into shape, Mar. *Temp.*, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 55°. *Propagate* by cuttings inserted in fine sand in temp. 55° to 65° in sum.

Maclura (Bow-wood, Osage Orange).—*Ord.* Urticaceæ. Hardy deciduous tree. *Orn.* foliage. *Nat.* N. America. *Int.* 1818. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellowish green, inconspicuous. *Fruit*, round, golden yellow, 3 to 5 in. in diameter; rarely borne in this country. *Leaves*, egg-shaped, bright green. *Soil*, ordinary. *Position*, in open sheltered shrubberies or hedges. *Plant*, Oct. to Feb. *Prune* into shape when necessary, Nov. to Feb. *Hedge culture*: Plant 12 in. apart in single row. *Soil* to be trenched two spits deep & 3 ft. wide. *Trim* into shape, July & Nov. *Propagate* by cuttings 6 to 8 in. long, inserted in ordinary soil, in shady position, Oct. to Mar.

Macrozamia (Swan River Fern Palm, Giant Fern Palm).—*Ord.* Cycadaceæ. Greenhouse evergreen perennials. *Orn.* foliage. *Nat.* Australia. *Int.* 1846. *Ht.* 5 to 20 ft. *Species* cultivated, 7. *Leaves*, feather-shaped, green; very graceful. *Compost*, equal parts peat, loam & sand. *Position*, well drained pots, in light greenhouse, shaded from sun. *Pot.* Feb. or Mar. *Water* freely, *Ap.* to Oct.; moderately afterwards. *Syringe* daily, *Ap.* to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 55° to 60°. *Propagate* by seeds sown in sandy peat in temp. 75° in Mar.; division of plants in Mar.; offsets in Feb. or Mar.

Madagascar Jasmine (*Stephanotis floribunda*)—see *Stephanotis*.

Madagascar Periwinkle (*Vinca rosea*)—see *Vinca*.

Mad-apple (*Solanum melongena*)—see *Solanum*.

Mad-dog Weed (*Alisma plantago*)—see *Alisma*.

Madaria (Mignonette Vine).—*Ord.* Compositæ. Hardy annual. *Nat.* California. *Int.* 1831. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, yellow; July to Sept. *Soil*, ordinary. *Position*, semi-shaded borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in *Ap.*, in groups or patches where required to flower; thinning seedlings when 2 in. high to 3 in. apart.

Madder (*Rubia tinctoria*)—see *Rubia*.

Madeira Bell-flower (*Wahlenbergia lobelioides*)—see *Wahlenbergia*.

Madeira Orchis (*Orchis foliosa*)—see *Orchis*.

Madeira Vine (*Boussingaultia basseloides*)—see *Boussingaultia*.

Madia (Madia Oil Plant).—*Ord.* Compositæ. Hardy annuals. *Nat.* Chili. *Int.* 1794. *Ht.* 18 in. *Species* cultivated, 2. *Flowers*, yellow; July to Aug. *Soil*, ordinary. *Position*, shady borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in *Ap.* in patches where required to flower, thinning out seedlings when 2 in. high 3 in. apart.

Madia-oil Plant (*Madia sativa*)—see *Madia*.

Mad-wort (*Alyssum saxatile*)—see *Alyssum*.

Madonna Lily (*Lilium candidum*)—see *Lilium*.

Madrona Tree (*Arbutus Menziesii*)—see *Arbutus*.

Magic Tree of Peru (*Cantua buxifolia*)—see *Cantua*.

Magnolia (Cucumber Tree, Yulan, Lily-flowered Magnolia, Long-leaved Cucumber Tree, Common Umbrella Tree, Large-flowered Magnolia, Laurel-leaved Tulip-tree).—*Ord.* Magnoliaceæ. Hardy & half-hardy deciduous & evergreen trees & shrubs. Flowering & orn. foliage. *Nat.* Japan, China, N. America, & India. *Int.* 1688. *Ht.* 2 to 80 ft. *Species* cultivated, 1 half-hardy; 11 hardy; about 10 deciduous; & 3 evergreen; varieties several. *Flowers*, white, rose, crimson, purple, yellow, fragrant; *Mar.* to *Sept.* *Culture of half-hardy species (M. fuscata)*: *Compost*, two parts sandy loam, one part peat or leaf mould, & sand. *Position*, well drained pots or tubs, or against walls in sunny greenhouse. *Pot* or *plant*, *Mar.* *Water* freely in *sum.*; moderately other times. *Syringe* daily, *Mar.* to *Sept.* *Temp.*, *Mar.* to *Sept.*, 55° to 65°; *Sept.* to *Mar.*, 45° to 50°. *Prune* straggling shoots only into shape, *Mar.* or *Ap.* *Outdoor culture*: *Soil*, rich, deep sandy loam. *Position*, sheltered parts of lawn or pleasure garden, or against S. or S.W. walls for *M. conspicua*, *M. acuminata*, etc.; against S. or W. walls for *M. grandiflora* & *M. glauca*. *Plant*, *Mar.* or *Ap.* *Prune*, evergreen species, *Mar.* or *Ap.*; deciduous species after flowering. *Protect* evergreen species in very severe weather in cold districts. *Apply* weak liquid manure to healthy specimens occasionally. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in spring or *autn.* in well drained pots of sandy soil in a cold frame or greenhouse; layering in *sum.* or *autn.*; grafting in heat in July or Aug.

Mahaleb Cherry (*Cerasus Mahaleb*)—see *Cerasus*.

Mahernia.—*Ord.* Sterculiaceæ. Greenhouse evergreen flowering herb. *Nat.* Cape of Good Hope. *Int.* 1792. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, crimson & orange, fragrant; June to *Sept.* *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, well drained pots in light sunny greenhouse. *Pot*, *Feb.* or *Mar.* *Temp.*, *Mar.* to *Sept.*, 55° to 65°; *Sept.* to *Mar.*, 45° to 55°. *Water* freely, *Ap.* to *Sept.*; moderately afterwards. *Pinch* off points of main shoots occasionally to induce bushy growth. *Propagate* by cuttings of young shoots, inserted singly in 2-in. pots filled with sandy soil, in July or Aug.

Mahogany Pine-tree (*Podocarpus Totarra*)—see *Podocarpus*.

Mahonia.—See *Berberis*.

Maianthemum (Twin-leaved Lily-of-the-Valley, One-leaf).—*Ord.* Liliaceæ. Hardy herbaceous perennial. *Nat.* Northern hemisphere (Britain). *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, white; May. *Leaves* & habit similar to the Lily-of-the-Valley. *Soil*, ordinary rich. *Position*, shady borders in the open, or under shrubs. *Plant*, *Sept.* & *Oct.* *Water* freely in dry weather. *Propagate* by division of creeping root-stocks in *Sept.* or *Ap.*

Maiden-hair Fern (*Adiantum capillus-veneris* & *A. cuneatum*)—see *Adiantum*.

Maiden-hair Grass (*Briza media*)—see *Briza*.

Maiden-hair Meadow-Rue (*Thalictrum minus*)—see *Thalictrum*.

Maiden-hair Spleen-wort (*Asplenium trichomanes*)—see *Asplenium*.

Maiden-hair Tree (*Salisburia adiantifolia*)—see *Salisburia*.

Maiden Oak (*Quercus sessiliflora*)—see *Quercus*.

Maiden Pink (*Dianthus deltoides*)—see *Dianthus*.

Maiden's Honesty (*Clematis vitalba*)—see *Clematis*.

Maid-of-the-Meadow (*Spiræa Ulmaria*)—see *Spiræa*.

Maid's Love (*Artemisia abrotanum*)—see *Artemisia*.

Maize (*Zea Mays*)—see *Zea*.

Majorca St. John's Wort (*Hypericum balearica*)—see *Hypericum*.

Malabar Glory Lily (*Gloriosa superba*)—see *Gloriosa*.

Malabar Gooseberry (*Melastoma malabathrica*)—see *Melastoma*.

Malabar Laurel (*Melastoma malarbaricum*)—see *Melastoma*.

Malabar Plum-tree (*Eugenia Jambos*)—see *Eugenia*.

Malacca Cane (*Calamus scipionum*)—see *Calamus*.

Malay Rose-apple (*Eugenia malaccensis*)—see *Eugenia*.

Malcomia (Virginian Stock, Virgin Stock).—*Ord.* Cruciferae. Hardy annual. *Nat.* Europe. *Int.* 1713. *Ht.* 4 to 8 in. *Species* cultivated, 1; varieties several. *Flowers*, white, crimson, red; *sum.* *Soil*, ordinary. *Position*, edging to sunny beds, masses on sunny borders, or on banks or rockeries. *Outdoor culture*: Sow seeds for *sum.* flowering $\frac{1}{2}$ in. deep in Mar., Ap., May or June, where plants are required to grow, & similar depth in Sept. for flowering in spring. *Pot culture*: *Compost*, two parts good ordinary soil, one part leaf-mould, cocoanut fibre refuse, decayed manure & sand. *Position* in 6-in. pots, well drained, in cold sunny greenhouse or window. Sow seeds $\frac{1}{2}$ in. deep in above pots in Mar., Ap. or May. *Water* moderately when first sown, freely when in full growth. *Thin* seedlings to half an inch apart when one inch high. *Apply* weak stimulants when flower buds show.

Male Dog-wood (*Cornus mas*)—see *Cornus*.

Malope (Large-flowered Mallow-wort, Barbary Mallow-wort).—*Ord.* Malvaceae. Hardy annuals. *Nat.* S. Europe. *Int.* 1710. *Ht.* 1 ft. *Species* cultivated, 2; variety, 1. *Flowers*, purple, white, pink; June to Sept. *Soil*, rich ordinary. *Position*, sunny beds, or in masses in borders. Sow seeds $\frac{1}{2}$ in. deep & 4 to 6 in. apart, where required to grow, in Ap. or May. *Water* freely in dry weather. *Apply* stimulants occasionally when plants show flower. *Propagate* also by seeds sown $\frac{1}{2}$ in. deep in pots or boxes of light soil in temp. 55° in Mar., transplanting seedlings into flowering positions in May or June.

Male Fern (*Lastrea filix-mas*)—see *Lastrea*.

Male Oak (*Quercus sessiliflora*)—see *Quercus*.

Mallow Bind-weed (*Convolvulus althaeoides*)—see *Convolvulus*.

Maloo Creeper (*Bauhinia racemosa*)—see *Bauhinia*.

Maltese Clover (*Hedysarum coronarium*)—see *Hedysarum*.

Maltese Orange-tree (*Citrus aurantium melitensis*)—see *Citrus*.

Malva (Musk Mallow).—*Ord.* Malvaceae. Hardy annual & perennial flowering plants. *Nat.* (perennial species) Europe (Britain); annual species, S. Europe, China. *Int.* (foreign species), 1573. *Species* cultivated, 1 perennial (*M. moschata*); 2 annuals (*M. crispa* & *M. mauritiana*). *Flowers*, white, purple, rose; June to Sept. *Culture of perennial species*: *Soil*, ordinary. *Position*, sunny or partially shaded beds or borders. *Plant*, Oct. or Mar. *Mulch* with manure in autn. *Culture of annual species*: *Soil*, ordinary. *Position*, sunny. *Plant*, May or June. *Propagate* annual species by seeds sown $\frac{1}{2}$ in. deep in light, sandy soil in temp. 55° in Mar. or Ap.; perennial species by seeds sown similarly, or by cuttings inserted in cold frame in July or Aug.

Malvastrum (False Mallow).—*Ord.* Malvaceae. Hardy perennials. *Nat.* United States, S. America. *Int.* 1811. *Ht.* 6 to 24 in. *Species* cultivated, 3. *Flowers*, scarlet, red, pink; June to Oct. *Soil*, ordinary. *Position*, sunny rockeries for dwarf species; sunny well drained borders for tall species. *Plant*, Oct. or Mar. *Protect* in severe winters with a layer of cinder ashes, manure or leaf-mould. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light, sandy soil in temp. 55° in Mar. or Ap.; cuttings inserted in cold frame in July or Aug.

Mammillaria (Nipple Cactus, Elephant's Tooth Cactus).—*Ord.* Cactaceae. Greenhouse succulent perennials. *Nat.* Mexico, Chili, Brazil, N. America, W. Indies. *Int.* 1690. *Ht.* 3 to 12 in. *Species* cultivated, about 53. *Flowers*, rose, crimson, yellow, white, purple, red; generally expanding about 11 a.m., and closing at 1 p.m.; somewhat fugitive, May to Sept. *Stems* leafless, cylindrical or globose, bearing at even distances over their surface

small tubercles or teats, crowned with rosettes or stars of spines. *Compost*, equal parts sandy loam, rough old mortar & pounded bricks. *Position*, sunny, airy greenhouse or window. *Pot*, Mar. or Ap., in well drained pots just large enough to accommodate roots. *Repot* every third or fourth year only. *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Dec.; none afterwards. *Syringe* on evenings of warm days, June to Sept. *Apply* soot water to healthy plants, June to Sept. *Ventilate* freely in sum. *Temp.*, March to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or pots of sandy soil in temp. 75° in Mar., keeping soil moderately moist; by cuttings of the tops of the plants inserted in small pots of sandy gritty compost in spring; by grafting on *Cereus speciosissimus* at any time.

Mammoth Tree of California (*Sequoia gigantea*)—see *Sequoia*.

Mandarin Orange-tree (*Citrus nobilis major*)—see *Citrus*.

Mandevilla (*Chi i Jasmine*).—*Ord.* Apocynacæ. Greenhouse flowering climber. Deciduous. *Nat.* Buenos Ayres. *Int.* 1837. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, white, fragrant; June to Sept. *Compost*, equal parts peat & loam, half part each of sand & pounded charcoal. *Position*, well drained beds or borders; shoots trained up trellis, pillars or roof of sunny greenhouse. *Plant*, Feb. *Water* freely, Feb. to Sept.; moderately, Sept. to Dec.; none afterwards. *Syringe* twice daily, Feb. to July. *Temp.*, Feb. to Sept., 55° to 65°; Sept. to Dec., 45° to 55°; Dec. to Feb., 40° to 50°. *Prune* shoots to within two buds of their base immediately after flowering. *Propagate* by seeds sown in pans or bed of sandy peat slightly covered with fine soil in a temp. of 65° to 75°, Feb. to Ap.; cuttings of firm side shoots, 2 to 3 in. long, inserted in sand under bell-glass in temp. of 70° to 85° in sum.

Mandragora (*Mandrake, Devil's Apple*).—*Ord.* Solanacæ. Hardy perennial herbs. *Nat.* S. Europe. *Int.* 1548. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, violet, purple, white blue, May to Sept. *Soil*, ordinary. *Position*, shady, well drained borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in cold frame or greenhouse, Mar. to May, or outdoors in Ap.; division of roots, Oct. or Ap. *Roots* of this plant are curiously shaped & poisonous.

Mandrake (*Mandragora vernalis*)—see *Mandragora*.

Manettia.—*Ord.* Rubiacæ. Greenhouse evergreen climbers. *Nat.* S. America. *Int.* 1832. *Ht.* 10 to 20 ft. *Species* cultivated, 4. *Flowers*, scarlet, red, white, orange; Mar. to Dec. *Compost*, equal parts loam, peat, pounded charcoal & silver sand. *Position*, well drained pots or beds; shoots trained to trellises, round pillars or up rafters. *Plant*, Feb. to Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Temp.*, Feb. to Oct., 55° to 65°; Oct. to Feb., 45° to 55°. *Propagate* by seeds sown in shallow pans of sandy soil, slightly covered with fine mould & placed in temp. 55° to 65°, Feb. or Mar.; cuttings of young shoots, 2 to 3 in. long, inserted in small pots of sandy soil in temp. 65° to 75° in sum.

Mangosteen-tree (*Garcinia mangostana*)—see *Garcinia*.

Man-in-the-Ground (*Ipomœa pandurata*)—see *Ipomœa*.

Manioc-plant (*Jatropha Manihot*)—see *Jatropha*.

Manna Ash (*Fraxinus ornus rotundifolia*)—see *Fraxinus*.

Manna-tree (*Fraxinus ornus rotundifolia*)—see *Fraxinus*.

Man-of-the-Earth (*Ipomœa pandurata*)—see *Ipomœa*.

Man Orchis (*Aceras anthropophora*)—see *Aceras*.

Mantisia (*Opera or Dancing Girls*).—*Ord.* Scitaminacæ. Stove herbaceous perennials. *Nat.* E. Indies. *Int.* 1808. *Species* cultivated, 1. *Flowers*, yellow, purple; July. *Compost*, equal parts peat & loam, little charcoal & sand. *Pot*, Feb. or Mar. *Position*, well drained pots in shade or near stove.

Water freely, Feb. to Oct.; keep nearly dry afterwards. Syringe daily, Mar. to Sept. Temp., Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. Propagate by division of roots in Feb. or Mar.

Many-flowered Barberry (*Berberis floribunda*)—see *Berberis*.

Many-flowered Begonia (*Begonia multiflora*)—see *Begonia*.

Many-flowered Golden-rod (*Solidago multiflora*)—see *Solidago*.

Many-flowered Heath (*Erica multiflora*)—see *Erica*.

Many-headed Hedgehog Cactus (*Echinocactus polycephalus*)—see *Echinocactus*.

Many-flowered Rose (*Rosa polyantha*)—see *Rosa*.

Many-flowered Solomon's-seal (*Polygonatum multiflorum*)—see *Polygonatum*.

Many-flowered Star-wort (*Aster multiflorus*)—see *Aster*.

Many-flowered Sun-flower (*Helianthus multiflorus*)—see *Helianthus*.

Many-leaved Tooth-wort (*Dentaria polyphylla*)—see *Dentaria*.

Many-coloured Collins's-flower (*Collinsia multicolor*)—see *Collinsia*.

Many-spiked Speedwell (*Veronica corymbosa*)—see *Veronica*.

Maple (*Acer campestre*)—see *Acer*.

Maple-leaved Plane-tree (*Platanus acerifolia*)—see *Platanus*.

Maple Service-tree (*Pyrus torminalis*)—see *Pyrus*.

Maple Vine (*Menispermum canadense*)—see *Menispermum*.

Marajah Palm (*Bactris Maraja*)—see *Bactris*.

Maranta (Arrowroot, Zebra Plant).—*Ord.* Scitamineæ. Stove herbaceous perennials. *Orn.* foliage. *Nat.* Tropical America. *Int.* 1732. *Ht.* 6 in. to 5 ft. *Species* cultivated, about 12; varieties many. *Leaves*, egg, lance or heart-shaped, roundish or oblong; greyish, purplish or rose below, upper sides green, blotched or streaked with white, yellow, brown, purple or rose. *Compost*, two parts fibrous peat, one part rich loam, one part sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Syringe* daily, Mar. to Sept. *Apply* weak stimulants occasionally during sum. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Repot* annually. *Propagate* by division of tubers or rhizomes in Feb. or Mar.

Marattia (Ash-leaf Fern, Para-fern).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Cape Colony, Guinea Coast. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1; varieties several. *Fronds*, 5 to 12 ft. long, feather-shaped; leaflets twice or three times divided. *Compost*, two parts peat, equal parts loam, leaf-mould & sand. *Position*, large well drained pots or moist beds. *Pot* or plant, Feb. or Mar. *Shade* from sun essential. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringing* not required. *Temp.*, Feb. to Oct., 60° to 70°; Oct. to Feb., 50° to 60°. *Propagate* by spores sown on surface of sandy peat in shallow well drained pans placed under bell-glass in temp. 65° to 75° any time.

Marbled-leaved Ivy (*Hedera Helix latifolia maculata*)—see *Hedera*.

March Beetle (*Typha latifolia*)—see *Typha*.

March Berries (*Vaccinium oxycoccos*)—see *Vaccinium*.

March Violet (*Viola odorata*)—see *Viola*.

Mare's Tail (*Hippuris vulgaris*)—see *Hippuris*.

Margosa Oil-plant (*Melia Azadirachta*)—see *Melia*.

Marguerite (*Bellis perennis* & *Chrysanthemum frutescens*)—see *Bellis* & *Chrysanthemum*.

Margyricarpus (Pearl Berry, Pearl Fruit).—*Ord.* Rosaceæ. Hardy evergreen trailing shrub. *Orn.* fruiting. *Nat.* Andes of Peru. *Int.* 1829. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, green; sum. *Berries*, white;

autn. *Soil*, equal parts leaf-mould, loam & sand. *Position*, sunny rockery, with shoots trailing over stones. *Plant*, Feb. to May. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in shallow boxes of light sandy soil in cold frame in autn. or spring; cuttings of young shoots, 1 to 2 in. long, inserted in sandy peat under bell-glass in cold frame in sum.; layering branches in Sept. or Oct.

Marica (Toad-cup Lily).—*Ord.* Iridaceæ. Stove & greenhouse herbaceous perennials. *Nat.* W. Indies, Brazil. *Int.* 1789. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4 stove; 2 greenhouse. *Flowers*, yellow, blue, white, red; Ap. to Sept. *Compost*, equal parts peat, leaf-mould & sand. *Position*, well drained pots in light part of stove or greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; keep dry, Nov. to Feb. *Apply* weak stimulants occasionally when in flower. *Temp.*, stove species, 65° to 75°, Mar. to Sept.; Sept. to Mar., 55° to 65°; greenhouse species, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 55°. *Propagate* by division of rhizomatous roots, Feb. or Mar.

Marigold (*Calendula officinalis*)—see *Calendula*.

Mariposa-lily (*Calochortus venustus*)—see *Calochortus*.

Marjoram (*Origanum vulgare*)—see *Origanum*.

Marjoram Oil-plant (*Origanum vulgare*)—see *Origanum*.

Marrubium (Horehound, White Horehound).—*Ord.* Labiatae. Hardy perennial medicinal herb. *Nat.* Britain. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Leaves* & young shoots used as a popular remedy for coughs. *Soil*, ordinary. *Position*, sunny dry borders. *Plant*, Mar. or Ap., 18 in. apart. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shady position outdoors, Mar. to May; cuttings inserted in shady border in Ap.; division of roots in Mar.

Marshallia.—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Texas. *Int.* 1837. *Ht.* 6 to 9 in. *Species* cultivated, 1. *Flowers*, white; June to Aug. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny border in Ap. or May, transplanting seedlings into flowering position following Sept.

Marsh Beetle (*Typha latifolia*)—see *Typha*.

Marsh Cistus (*Ledum palustre*)—see *Ledum*.

Marsh Elder (*Viburnum opulus*)—see *Viburnum*.

Marsh Fern (*Lastrea Thelypteris*)—see *Lastrea*.

Marsh Gilliflower (*Lychnis Flos-cuculi*)—see *Lychnis*.

Marsh Gentian (*Gentiana Pneumonanthe*)—see *Gentiana*.

Marsh Helleborine (*Epipactis palustris*)—see *Epipactis*.

Marsh-marigold (*Caltha palustris*)—see *Caltha*.

Marsh Orchis (*Orchis latifolia*)—see *Orchis*.

Marsh Ox-eye Daisy (*Chrysanthemum lacustre*)—see *Chrysanthemum*.

Marsh Rosemary (*Ledum palustre* & *Andromeda polifolia*)—see *Ledum* & *Andromeda*.

Marsh St. John's Wort (*Hypericum elodes*)—see *Hypericum*.

Marsh Willow-herb (*Epilobium palustre*)—see *Epilobium*.

Marsh Trefoil (*Menyanthes trifoliata*)—see *Menyanthes*.

Marsh Valerian (*Valeriana dioica*)—see *Valeriana*.

Marsh Violet (*Vio'la palustris*)—see *Viola*.

Martagon Lily (*Lilium martagon*)—see *Lilium*.

Martynia (Elephant's Trunk, Unicorn Plant).—*Ord.* Pedaliaceæ. Half-hardy annual. *Nat.* Mexico, Brazil. *Int.* 1731. *Species* cultivated, 4. *Flowers*, white, purple, crimson, red, yellow, violet, fragrant; June to Oct. *Pot culture*: *Compost*, equal parts loam, leaf-mould, decayed manure & sand. *Sow* seeds 1 in. deep singly in 2-inch pots & place in temp. of 60° to 70°, Feb. or Mar. *Transfer* to 5-in. pots in Ap. or May; to 6 or 7-in. pots in June. *Pot* firmly. *Position*, light sunny greenhouse or window. *Water* moderately at

first; freely when in full growth. *Apply* weak stimulants occasionally to healthy plants in flower. *Temp.*, Feb. to May, 60° to 70°; afterwards, 55° to 65°. *Outdoor culture*: *Soil*, ordinary rich. *Position*, sunny well drained sheltered beds or borders. *Sow* seeds 1 in. deep singly in 3-in. pots, or 3 in. apart in shallow boxes of light soil in temp. of 60° to 70° in Feb. or Mar., transplanting seedlings 8 to 12 in. apart early in June. *Mulch* with cocoanut-fibre refuse or decayed manure after planting. *Water* in dry weather.

Marvel-of-Peru (*Mirabilis Jalapa*)—see *Mirabilis*.

Mary-bud (*Calendula officinalis*)—see *Calendula*.

Marygold (*Calendula officinalis*)—see *Calendula*.

Maryland Cassia (*Cassia Marilandica*)—see *Cassia*.

Maryland Golden-star (*Chrysopsis Mariana*)—see *Chrysopsis*.

Masdevallia (Spectral-flowered Orchid).—*Ord.* Orchidaceæ. Green house epiphytal orchids. Evergreen. *Nat.* Tropical America. *Int.* 1842. *Ht.* 2 to 12 in. *Species* cultivated, about 50; hybrids & varieties, several. *Flowers*, white, rose, crimson, scarlet, red, purple, yellow, white, magenta, orange, violet; nearly all the year round. *Compost*, for robust species (*M. Harryana*, etc.), two parts fibrous peat, one part sphagnum moss & sand; for other species (*M. Chimæra*, etc.), equal parts peat, moss & lumps of charcoal, & a little sand. *Pot* annually in Feb. or Mar. *Position*, well drained pots for *M. Harryana*; teak-wood baskets, lined with moss, for *M. Chimæra*. *Shade* from sun essential. *Water* freely, Ap. to Sept.; moderately afterwards, and keep atmosphere moist all the year round. *Syringe* staging, floors & pots daily in sum. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 65°. *Ventilate* freely in sum. *Propagate* by division of plants in Feb.

Mask-flower (*Alonsoa incisifolia*)—see *Alonsoa*.

Massangea.—*Ord.* Bromeliadaceæ. Stove herbaceous perennials. Orn. foliage. *Nat.* Brazil, Peru, Columbia. *Int.* 1873. *Ht.* 8 to 12 in. *Species* cultivated, 3. *Leaves*, strap-shaped, green or greyish, mottled or banded with dark green, violet, brown or black. *Compost*, equal parts fibrous loam, peat, leaf-mould & silver sand. *Pot*, Mar. *Position*, shady part of stove. *Water* freely, Feb. to Oct.; moderately afterwards. *Syringe*, Mar. to Sept. *Good drainage* essential. *Temp.*, 75° to 85°, Mar. to Sept.; Sept. to Mar., 70° to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy compost in temp. 85° in Ap.

Master Tree (*Acer campestre*)—see *Acer*.

Mathiola (Ten-week, Brompton, German, Night-scented, Intermediate, Cape Giant, Wallflower-leaved Stock).—*Ord.* Cruciferae. Half-hardy annuals & biennials. *Nat.* S. Europe, Greece. *Int.* 1731. *Ht.* 1 to 2 ft. *Species* cultivated, about 6; varieties numerous. *Flowers*, various; spring, sum. & autn. *Classes*: Annuals. Ten-week & Intermediate (vars. of *M. annua*), Wallflower-leaved (*M. græca*), Night-scented (*M. bicornis*); Biennials. Brompton, Queen (*M. incana*), Cape Giant (*M. fenestralis*). *Sub-classes*: *Ten-week*.—Bouquet, Branching, German, Miniature, Pyramidal & Perfection; *Intermediate*.—Autumn-flowering, Perpetual, Emperor & East Lothian; *Spring-flowering*.—Brompton, Queen, Emperor & East Lothian; *Summer-flowering*.—Ten-week, Night-scented, Wallflower-leaved & Cape Giant; *Autumn-flowering*.—Autumn-flowering. *Culture of ten-week stock outdoors*: *Soil*, deep, rich, well manured. *Position*, open sunny beds or borders. *Sow* seeds $\frac{1}{8}$ in. deep in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors end of May; or in cold frame or outdoors in Ap., transplanting seedlings in June. *Plant*, dwarf kinds 9 in. & tall kinds 12 to 15 in. apart each way. *Mulch* surface of soil after planting with decayed manure. *Remove* seed pods as they form. *Pot culture*: *Sow* seeds as above advised. *Transplant* three seedlings 1 in. high into a 3-in. pot, & when 3 to 4 in. high into a 5-in. pot. *Compost*, two parts good soil, one part decayed manure & sand. *Position*, cold frame during May; afterwards outdoors. *Water* freely. *Apply* stimulants when flower buds form. *Culture of*

Wallflower-leaved stock: Same as for ten-week. *Culture of night-scented stock*: Soil, ordinary. *Position*, sunny beds or borders. *Sow seeds* $\frac{1}{2}$ in. deep in Ap. where required to flower. *Culture of intermediate stock*: *Sow seeds* $\frac{1}{2}$ in. deep in light soil in well drained pots or boxes in cold frame in Aug. or Sept. *Transplant seedlings* when 1 in. high singly in a 2-in. pot or four in a 4-in. pot. *Compost*, equal parts loam, leaf-mould & old mortar. *Plunge pots to rim* in cinder ashes in sunny cold frame. *Water* sparingly. *Ventilate* freely in fine weather. *Plant out* in rich soil in Mar., or transfer single plants to a 5-in. or three plants to a 6-in. pot. *Water* moderately. *Apply stimulants* when flowers show. *Position*, when in flower, light, airy greenhouse. *For autumn-flowering*, sow seeds in Mar. or Ap., & plant out in June. *Culture of Brompton & Queen stocks*: *Sow seeds* $\frac{1}{2}$ in. deep in light soil in cold frame in June or July. *Transplant seedlings* when 1 in. high 8 to 12 in. apart where required to flower following year, or place singly in 2-in. pots; keep in cold frame & plant out in Mar. *Seed-Saving*: Largest percentage of double flowers obtained from plants grown in poor soil, & of the dwarfiest habit.

Matricaria (Double Dog Gowan, May Weed).—*Ord.* Compositæ. Hardy perennial herb. *Nat.* Britain. *Ht.* 1 ft. *Species* cultivated, none; double variety of common kind only. *Flowers*, white, double; autu. *Soil*, ordinary. *Position*, open sunny beds or borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by cuttings inserted in ordinary soil in shady position outdoors in spring; division of roots in Oct. or Mar.

Mat-reed (*Typha latifolia*)—see Typha.

Matrimony Vine (*Lycium vulgare*)—see Lycium.

Matthoti's Camellia (*Camellia Matthotiana*)—see Camellia.

Maurandya.—*Ord.* Scrophulariaceæ. Half-hardy climbing perennials. *Nat.* Mexico. *Int.* 1796. *Ht.* 3 to 5 ft. *Species* cultivated, 4. *Flowers*, purple, rose, white, violet; May to Oct. *Indoor culture*: *Compost*, equal parts loam & leaf-mould & little sand. *Pot*, Mar. to May. *Position*, well drained pots with shoots draping over front of stage, or trained up trellis, walls, or rafters, or suspended in baskets in sunny greenhouse. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry afterwards. *Apply stimulants* to healthy plants in flower only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Outdoor culture*: *Soil*, ordinary rich. *Position*, against S. walls or in sunny vases or window boxes. *Plant*, June. *Lift, repot & place* in greenhouse in Sept. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary light soil in temp. of 60° to 70° in Mar., transplanting seedlings when 1 in. high singly into 2 or 3-in. pots; cuttings of young shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, Mar. to Aug.

Mauve-flowered Starwort (*Aster turbinellus*)—see Aster.

Maxillaria.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Peru, Ecuador, Brazil. *Int.* 1832. *Ht.* 6 to 12 in. *Species* cultivated, about 6. *Flowers*, purple, yellow, red, orange, white, crimson; Nov. to Mar. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting room or cool conservatory when in flower. *Propagate* by division of pseudo bulbs immediately after flowering.

MaxLeichtlin's Lily (*Lilium Leichtlini*)—see Lilium.

May (*Cratægus Oxyacantha*)—see Cratægus.

May-apple (*Podophyllum peltatum*)—see Podophyllum.

May Gowan (*Belles perennis*)—see *Bellis*.

May Lily (*Convallaria majalis*)—see *Convallaria*.

Mazagan Bean (*Faba vulgaris praxcox*)—see *Faba*.

Mazus.—*Ord.* Scrophulariaceæ. Hardy herbaceous creeping perennial. *Nat. Australia*. *Int.* 1823. *Ht.* 1½ in. *Species* cultivated, 1. *Flowers* violet; May to July. *Soil*, sandy loam. *Position*, open sunny ledges of rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, cold sunny frames or windows. *Pot*, Feb. to Ap. *Water* moderately, Feb. to May & Sept. to Nov.; freely, May to Sept.; keep nearly dry, Nov. to Feb. *Propagate* by division of creeping roots, Feb. to Ap.

Meadow-bright (*Caltha palustris*)—see *Caltha*.

Meadow-crocus (*Colchicum autumnale*)—see *Colchicum*.

Meadow Geranium (*Geranium pratense*)—see *Geranium*.

Meadow Gowan (*Caltha palustris*)—see *Caltha*.

Meadow Pink (*Dianthus deltoides*)—see *Dianthus*.

Meadow-Rocket (*Orchis latifolia*)—see *Orchis*.

Meadow-Rue (*Thalictrum flavum*)—see *Thalictrum*.

Meadow-Saffron (*Colchicum autumnale*)—see *Colchicum*.

Meadow Saxifrage (*Saxifraga granulata*)—see *Saxifraga*.

Meadow-Sweet (*Spiræa Ulmaria*)—see *Spiræa*.

Mealy Centaury (*Centaurea dealbata*)—see *Centaurea*.

Mealy-leaved Sun-rose (*Helianthemum farinosum*)—see *Helianthemum*.

Mealy-tree (*Viburnum Lantana*)—see *Viburnum*.

Meconopsis (Welsh Poppy, Himalayan Poppy, Blue Poppy, Prickly Poppy, Nepaul Poppy, Sikim Poppy, Satin Poppy-wort, Wallich's Blue Poppy).—*Ord.* Papaveraceæ. Hardy biennial & perennial herbs. *Nat. W. Europe* (Britain), Himalaya Mountains, Nepaul, Sikim. *Int.* (foreign species) 1855. *Ht.* 1 to 5 ft. *Species* cultivated, 5; variety 1. *Flowers*, golden yellow, purple, blue; May to Sept. *Culture of biennial species* (*M. aculeata*, *nepalensis* & *simplicifolia*): Sow seeds ¼ in. deep in light sandy soil in temp. 60° to 70° in Mar. or Ap. *Transplant* seedlings in Ap. into bed of loamy soil enriched with manure, & cover with cold frame until June. *Remove* following Mar. or Ap. to where required to flower. *Position*, well drained sunny rockery. *Water* freely in sum.; keep dry as possible in winter. *Cover* surface of soil under leaves with small lumps of sandstone. *Plants* flower when 2 to 4 years old, & afterwards die. *Culture of perennial species* (*M. Cambrica* & *Wallichii*): *Soil*, ordinary rich. *Position*, sunny sheltered borders or rockeries. *Plant*, Mar. or Ap. *Water* as above advised. *Propagate M. Wallichii* by seeds sown ¼ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap.; *M. Cambrica* by seeds sown ½ in. deep in moist soil outdoors in Mar. or Ap.

Median Lemon-tree (*Citrus medica*)—see *Citrus*.

Medicago (Medick, Snail-Clover, Calvary Clover, Crown of Thorns, Sea-Egg).—*Ord.* Leguminosæ. Hardy annual & perennial. *Nat. S. Europe*, Britain, Asia. *Int.* (Calvary clover) 1818. *Ht.* 1 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow; sum.; succeeded by curiously twisted legumes. *Culture of Calvary clover* (annual): Sow seeds ½ in. deep in ordinary soil in sunny position outdoors, Ap. or May. *Thin* seedlings when 1 in. high to 6 in. apart. *Water* freely in dry weather. *Pot culture*: *Compost*, two parts good soil, one part leaf-mould, half a part each of old mortar & sand. Sow seeds thinly in 5-in. pots filled with above compost. *When* seedlings are 1 in. high, thin to 3 in. each pot. *Water* moderately. *Position*, sunny window or greenhouse. *Culture of perennial species* (*M. falcata*): *Soil*, ordinary. *Position*, dryish sunny banks, borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown ¼ in. deep in ordinary soil outdoors in Mar.; division of roots in Oct. or Mar.

Medicinal Mandrake (*Mandragora officinalis*)—see *Mandragora*.

Medicinal Squill (*Scilla maritima*)—see *Scilla*.

Medicinal Worm-wood (*Artemisia Abrotanum*)—see *Artemisia*.

Medick (*Medicago falcata*)—see *Medicago*.

Mediterranean Heath (*Erica mediterranea* or *E. carnea*)—see *Erica*.

Mediterranean Lily (*Pancratium maritimum*)—see *Pancratium*.

Mediterranean Stock (*Hesperis maritima*)—see *Hesperis*.

Medlar (*Mespilus germanica*)—see *Mespilus*.

Medlar-bush (*Amelanchier ovalis*)—see *Amelanchier*.

Medlar-wood (*Myrtus mespiloides*)—see *Myrtus*.

Medinilla.—*Ord.* Melastomaceæ. Stove evergreen-flowering shrubs. *Nat.* India, Ceylon, Java, Sumatra, Moluccas, Manila. *Int.* 1845. *Ht.* 2 to 5 ft. *Species* cultivated, 6. *Flowers*, rose, pink, white, crimson; *Mar.* to *July* & *Oct.* to *Feb.* *Compost*, two parts fibrous peat, one part loam, half part sand, half part well decayed manure. *Position*, sunny moist part of stove, *Feb.* to *Sept.*; light & moderately dry part afterwards. *Pot.* *Feb.* *Temp.*, *Feb.* to *Sept.*, 75° to 85°; *Sept.* to *Nov.*, 70° to 80°; *Nov.* to *Feb.*, 65° to 75°. *Water* freely, *Mar.* to *Sept.*; moderately afterwards. *Syringe* twice daily, *Mar.* to *Sept.* *Moist* atmosphere very essential. *Apply* stimulants when plants commence flowering. *Prune* straggly shoots into shape, *Jan.* or *Feb.* *Propagate* by cuttings of firm young side shoots, 3 to 4 in. long, inserted in sandy peat & leaf-mould, under bell-glass, in temp. 85° in spring or sum.

Medusa's-head (*Euphorbia Caput-Medusæ*)—see *Euphorbia*.

Medusa's-head Orchid (*Cirrhopetalum Caput-Medusæ*)—see *Cirrhopetalum*.

Megarrhiza (Bitter Root, Californian Big-root).—*Ord.* Curcubitaceæ. Hardy tuberous-rooted twining perennial. Flowering & orn. foliage. *Nat.* California. *Int.* 1880. *Species* cultivated, 1. *Flowers*, greenish; males borne in racemes, females solitary; sum. *Fruit*, roundish; spiny. *Leaves*, silvery, hand-shaped. *Soil*, ordinary light. *Position*, sunny, well drained borders; shoots trained up walls, arbours or trellises. *Plant*, *Mar.* to *June*. *Propagate* by seeds sown in light soil in temp. 55°, *Mar.* or *Ap.*

Megasea (Heart-leaved Saxifrage, Thick-leaved Saxifrage, Strap-leaved Saxifrage, Himalayan Purple Saxifrage, Broad-leaved Saxifrage).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* Siberia, Nepaul, Himalayas. *Int.* 1765. *Ht.* 4 to 12 in. *Species* cultivated, about 5; varieties several. *Flowers*, red, rose, purple, pink; *Feb.* to *June*. *Culture* of *M. cordifolia* & *crussifolia* & varieties: *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, *Oct.*, *Nov.*, *Mar.* or *Ap.* *Water* occasionally in dry weather. *Culture* of *M. ligulata*, *purpurescens*, *Stracheyi* & varieties: *Compost*, two parts sandy peat, one part leaf-mould. *Position*, sheltered partially shaded rockeries. *Plant*, *Mar.* to *May*. *Protect* in winter by partial covering of dry litter, hand-light or bell-glass. *Water* occasionally in dry weather. *Pot culture*: *Compost*, two parts peat, one part leaf-mould & one part sand. *Position*, well drained 5 or 6-in. pots in cool or cold greenhouse or window, *Mar.* to *Oct.*; cold frame in winter. *Water* freely, *Mar.* to *Oct.*; moderately afterwards. *Apply* stimulants occasionally, *Mar.* to *Aug.* *Propagate* by division of roots in *Oct.*, *Nov.*, *Mar.* or *Ap.*

Melancholy-gentleman (*Hesperis tristis*)—see *Hesperis*.

Melanthium (American Bunch-flower).—*Ord.* Liliaceæ. Hardy bulbous perennials. *Nat.* N. America. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, creamy white, brown, mauve & purple; *June* to *Aug.* *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, *Oct.*, *Nov.*, *Mar.* or *Ap.* *Propagate* by seeds sown in ordinary soil in shady position outdoors in *Mar.* or *Ap.*; division of roots in *Oct.* or *Mar.*

Melia (Bead-tree, Margosa-tree, False Sycamore, Holy Tree, Indian Lilac, Pride of China, Pride of India, Syrian Bead-tree).—*Ord.* Meliaceæ.

Stove & half-hardy evergreen & deciduous trees. Flowering & orn. foliage. *Nat. E. Indies, Tropical Asia & Africa, Japan. Int. 1656. Ht. 20 to 45 ft.* *Species cultivated, 3 stove; 2 half-hardy. Flowers, blue, lilac, white, pink, June to Sept. Leaves, graceful, feather-shaped, green. Culture of stove species: Compost, two parts sandy loam, one part leaf-mould & sand. Position, well drained pots in moist part of stove. Pot, Feb. or Mar. Water freely, Mar. to Oct.; moderately afterwards. Syringe twice daily, Mar. to Sept. Temp., Mar. to Oct., 75° to 85°; Oct. to Mar., 65° to 75°. Culture of half-hardy species: Soil, sandy loam. Position, large well drained pots in cool greenhouse or conservatory, or sheltered shrubberies outdoors S of England. Pot or plant, Oct. to Feb. Water freely (in pots), Mar. to Oct.; little afterwards. Propagate stove species by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell glass in temp. 75° to 85°, spring or sum.; half-hardy species by cuttings inserted similarly in temp. 55° to 65°, sum. or autn.*

Melanthus (Great Cape Honey-flower).—*Ord. Sapindaceæ. Half hardy evergreen shrubs. Orn. foliage. Nat. Cape of Good Hope. Int. 1688. Ht. 4 to 6 ft. Species cultivated, 1. Flowers, brown; May to Aug. Leaves, graceful, feather-shaped, green. Pot culture: Compost, two parts loam, one part leaf-mould & sand. Position, well drained pots in sunny greenhouse. Pot, Feb. or Ap. Water freely, Mar. to Oct.; moderately afterwards. Temp., Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. Outdoor culture: Soil, ordinary rich. Position, sunny beds or borders. Plant, May or June. Lift roots in Sept. or Oct., & store like dahls in cool frost-proof shed or greenhouse until planting time. May be grown entirely outdoors in warm sheltered parts of England. Propagate by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in temp. 65° to 75° in Jan., Feb. or Mar., or in similar soil in temp. 55° to 65° in Aug. or Sept.; by cuttings inserted in light sandy soil under bell-glass in temp. 55° to 65° in spring or sum.*

Melissa (Common Balm, Balm-leaf, Baum).—*Ord. Labiatae. Hardy herbaceous perennials. Aromatic foliage. Nat. S. Europe (Britain). Ht. 2 to 3 ft. Species cultivated, 1; variegated variety, 1. Flowers, white, yellow; June to Oct. Leaves, egg-shaped, dark green, or variegated with yellow; fragrant. Soil, ordinary light. Position, warm sunny beds or borders. Plant, Oct. or Mar. in groups or 12 in. apart in rows. Gather stems when flowers open for drying for winter use. Cut stems off close to ground after flowering. Propagate by seeds sown $\frac{1}{2}$ in. deep outdoors in Mar.; division of roots in Oct. or Mar.*

Melittis (Balm Melittis, Bastard Balm, Honey Balm, Baum-leaf).—*Ord. Labiatae. Hardy perennial. Nat. Europe (Britain). Ht. 12 to 18 in. Species cultivated, 1. Flowers, white, pink, purple; May to July. Soil, ordinary rich. Position, partially shaded beds or borders. Plant, Oct., Nov., Mar. or Ap. Propagate by division of roots direct after flowering.*

Melocactus (Melon Cactus, Melon Thistle, Turk's Cap Cactus, Pope's Head).—*Ord. Cactaceæ. Greenhouse succulent perennials. Nat. Mexico, W. Indies, Brazil. Int. 1788. Species cultivated, about 4. Flowers, rose, red; sum. Stems globular, ribbed, spiny, surmounted by a cylindrical cap. Compost, two parts fibrous sandy loam, one part brick rubble, old mortar & sand. Position, well drained pots in sunny greenhouse or window. Repot every three or four years in Mar. Water once a month, Sept. to Ap.; once a week afterwards. Temp., Sept. to Mar., 50° to 55°; Mar. to Sept., 65° to 75°. Propagate by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy soil in temp. 75° in Mar., keeping soil moderately moist; cuttings of stems inserted in small pots of sandy soil kept barely moist in sum.; grafting on common kinds in Ap.*

Melon (*Cucumis melo*)—see *Cucumis*.

Melon-cactus (*Melocactus communis*)—see *Melocactus*.

Melon Pumpkin (*Cucurbita melopepo*)—see *Cucurbita*.

Melon Thistle (*Melocactus communis*)—see *Melocactus*.

Meniscium.—*Ord.* Filices. Stove evergreen rhizomatous ferns. *Nat.* W. Indies, Mexico, Peru, China, Ceylon, Himalayas. *Int.* 1793. *Species* cultivated, about 7. *Fron*ds entire or once divided. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots or ledges of rockery in shady part of stove. *Pol* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by spores sown on surface of pans of fine sandy peat in temp. 75° to 80 any time; division of plants at potting time.

Menispermum (Moon Seed, Moon Creeper, Vine Maple, Yellow Perilla).—*Ord.* Menispermaceæ. Hardy deciduous flowering climber. *Nat.* N. America. *Int.* 1691. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Soil*, ordinary rich. *Position*, moist shady borders with shoots twined up walls, arbours, pergolas or trellises. *Plant*, Oct. or Mar. *Prune* away weak or unhealthy shoots, Nov. to Feb. *Propagate* by cuttings of young shoots inserted in sandy soil in shady position outdoors, or under hand-light in spring; division of roots, Oct. to Mar.

Mentha (Apple Mint, Spear Mint, Variegated Round-leaved Mint, Garden Mint, Mackerel Mint, Penny Royal).—*Ord.* Labatæ. Hardy perennials. Aromatic foliage. *Nat.* Europe (Britain), Asia, Africa. *Ht.* $\frac{1}{2}$ in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, purple; July to Oct. *Leaves*, green, or variegated with yellow; fragrant. *Culture of Spear Mint*: *Soil*, rich, moist, ordinary. *Position*, sunny or partially shady border. *Plant* roots 2 in. deep in rows 9 in. apart in Feb. or Mar. *Mulch* with layer of decayed manure in Mar. *Water* freely in dry weather. *Cut* off stems close to ground in Sept. & cover bed with 2 in. of soil. *Lift* & replant every three years. *Gather* shoots for drying when flowers first open. *Forcing*: Place roots close together (with ordinary soil between) in large pot or box, & put in a temp. of 55° to 65°, Oct. to Mar. *Keep* soil moist. *Culture of Peppermint*: Same as advised for Spear Mint. *Gather* when in flower for distillation. *Culture of Penny Royal*: *Soil*, moist loamy. *Position*, partially shaded border. *Plant*, Sept., Mar. or Ap., 6 in. apart in rows 12 in. asunder. *Water* freely in dry weather. *Mulch* with decayed manure in Ap. A variety of this (*M. pulegium gibraltarium*) largely used for carpet bedding. *Plant*, Ap. or May, & lift & store in cold frame in Sept. or Oct. *Culture of ordinary species*: *Soil*, light rich. *Position*, partially shady borders. *Plant*, Mar. or Ap. *M. Requienii*, an excellent creeping plant for covering surface of soil in moist places. *Propagate* Spear Mint & Peppermint by division of roots in Feb. or Mar.; also cuttings of young shoots, 3 in. long inserted in shady position outdoors in sum.; Penny Royal by offshoots or divisions in Oct. or Mar.; ordinary species by division in Oct. or Feb.

Mentzelia (Prairie Lily).—*Ord.* Loasacæ. Hardy annual, biennial, or herbaceous perennial. *Nat.* California, Louisiana, Missouri. *Int.* 1811. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, yellow, white, fragrant; May to Sept. *Culture of a annual species*: Sow seeds $\frac{1}{2}$ in. deep in light sandy soil in temp. 65° in Feb. *Transplant* seedlings when $\frac{1}{2}$ in. high singly into 2-in. pots, & keep in temp. 55° to 65° till May; place in cold frame, & plant outdoors in June. *Soil*, ordinary. *Position*, sunny well drained borders. *Culture of biennial species*: Sow seeds & treat as advised for annual species. *Transfer* to 4 or 5-in. pots in June. *Plunge* these to their rims in cinder ashes in cold sunny frame until Sept., then remove to light airy greenhouse. *Water* freely in sum.; moderately in winter. *Transfer* to cold frame in Mar. *Plant* outdoors, May. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Culture of perennial species*: *Soil*, sandy. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Protect* Nov. to Ap. with covering of litter or ashes. *Propagate* by seeds sown as advised for annual & biennial species; division of plants, Ap. or May.

Menyanthes (Buck bean, Bog Bean, Bog Trefoil, Marsh Trefoil, Water Trefoil).—*Ord.* Gentianacæ. Hardy perennial aquatic. *Nat.*

Northern hemisphere (Britain). *Species cultivated*, 1. *Flowers*, white, red, purple, fragrant; Mar. to June. *Soil*, ordinary mud or bog. *Position*, shallow streams, pools or ponds, marshes & bogs. *Plant*, Sept. to Nov. & Mar. or Ap. *Propagate* by inserting pieces of creeping stems in the mud, Mar. to Oct.

Menziesia (Irish Heath, St. Dabeoc's Heath).—*Ord.* Ericaceæ. Hardy evergreen flowering shrubs. *Nat.* N. America, Ireland, S.W. Europe, Azores. *Int.* (foreign species) 1803. *Ht.* 6 in. to 2 ft. *Species cultivated*, 4; varieties, 2. *Flowers*, white, rose, purple, pink; May to Sept. *Soil*, sandy peat. *Position*, moist sunny rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by cuttings inserted in sandy soil in sum. under hand-light; layers of shoots in autn.; division of plants in autn.

Menzies' Gooseberry (*Ribes Menziesi*)—see *Ribes*.

Menzies' Spruce (*Abies Menziesi*)—see *Abies*.

Merendera (Pyrenean Meadow Saffron).—Hardy bulbous perennials. *Nat.* Pyrenees, Caucasus, India, Persia. *Int.* 1820. *Ht.* 3 to 5 in. *Species cultivated*, 3; varieties 1. *Flowers*, lilac, rose, yellow, purple, fragrant; May to Sept. *Soil*, light sandy loam, enriched with decayed manure or leaf-mould. *Position*, moist beds on rockeries, shrubby borders, or lawns near shade of trees. *Plant* bulbs 3 in. deep & 3 in. apart in July or Aug. *Foliage* dies down in June & July, & does not reappear until after plant has flowered. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in bed of fine soil outdoors in Aug. or Sept., or in pans or boxes of similar soil in cold frame at same time, transplanting seedlings 3 in. apart when two years old; division of bulbs in Aug. *Seedling* bulbs do not flower until four or five years old.

Merry-tree (*Prunus avium*)—see *Prunus*.

Mertensia (Alpine Lungwort, Siberian Lungwort, Oyster Plant, Virginian Cowslip).—*Ord.* Boraginaceæ. Hardy perennial herbs. *Nat.* E. Europe (Britain), Trop. Asia, N. America. *Int.* (foreign species) 1799. *Ht.* 6 in. to 2 ft. *Species cultivated*, 7. *Flowers*, blue, purple; Ap. to Sept. *Soil*, sandy peat & loam. *Position*, partially shady rockeries or borders. *Plant*, Oct. & Nov., Mar. & Ap. *Left* & replant in fresh soil every four or five years. *M. Siberica* will thrive in ordinary soil in partial shade. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy peat in cold frame in autn.; division of roots in Oct. or Mar.

Mesembryanthemum (Fig Marigold, Ice Plant, Dog Chop, Lamb's Chop, Cat Chop, Tiger Chop, Fox Chop, Mouse Chop, Weasle Chop).—*Ord.* Ficoidaceæ. Greenhouse & hardy annuals & herbaceous & shrubby perennials. Mostly evergreen & trailing. *Nat.* Australia, Africa, New Zealand, Canary Islands, S. Europe, Arabia. *Int.* 1690. *Ht.* 2 in. to 2 ft. *Species cultivated*, about 46 erect shrubby evergreens; 22 herbaceous: 11 trailing evergreens; 4 annuals. *Flowers*, white, yellow, red, scarlet, pink; May to Dec. *Culture of shrubby & herbaceous species*: *Compost*, equal parts old mortar, pounded corks, sandy loam, well decayed manure or leaf-mould & sand. *Position*, well drained pots in sunny greenhouse or window. *Pot*, Mar. to May. *Water* freely, Ap. to Sept.; moderately, Mar. & Sept.; keep nearly dry during the remainder of year. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. *Shrubby & herbaceous species* may be planted in sunny beds or on rockeries in June; lifted, repotted & placed in greenhouse in Sept. *Culture of annual species in pots*: Sow seeds $\frac{1}{4}$ in. deep in Ap. in 4 or 5-in. pots filled with above compost in temp. 55° to 65°. *Thin* seedlings to $\frac{1}{2}$ -in. apart. *Treat* otherwise as advised for shrubby species. *Outdoors*: *Soil*, ordinary, with liberal addition of old mortar. Sow seeds $\frac{1}{4}$ in. deep in Ap., where plants are required to grow. *Thin* to 1 in. apart. *Position*, sunny well drained rockery. *Culture of variegated bedding kind* (*M. cordifolium variegatum*): *Propagate* by cuttings inserted in sandy soil in Mar., Ap. or Sept. in temp. 60° to 70°. Grow in temp. 50° to 60°, Oct. to May; in cold frame until June, then plant outdoors. *Culture of Ice plant* (*M. crystallinum*):

Soil, ordinary. *Position*, sunny bed, border or rockery. *Sow seeds* $\frac{1}{2}$ in. deep in sandy soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June. *Propagate* annual species by seeds sown $\frac{1}{4}$ in. deep in spring in similar compost to that advised for plants; shrubby & herbaceous species by seeds, also by cuttings inserted in old mortar & sand in temp. 55° to 65° , Mar. to Sept.

Mesospinidium.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchids. *Nat.* Andes of Peru. *Int.* 1867. *Ht.* 6 in. *Species* cultivated, 2. *Flowers*, bright rose, purple; Oct. to Feb. *Compost*, equal parts peat & sphagnum moss. *Position* on blocks suspended from roof, or in well drained pots or pans. *Pot* or re-block, Feb. to Ap. *Water* abundantly, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 60° to 70° ; Sept. to Mar., 45° to 60° . *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Shade* from sun. *Moist* atmosphere essential during growing period. *Propagate* by division of pseudo-bulbs, Feb. to Ap.

Mespilus (Medlar, Smith's Medlar).—*Ord.* Rosaceæ. Hardy deciduous flowering & edible fruit-bearing trees. *Nat.* Europe (Britain), Persia, Asia. *Ht.* 10 to 25 ft. *Species* cultivated, 2; varieties several. *Flowers*, white; May to June. *Fruit*, a brownish turbinate berry; ripe Nov. & Dec. *Culture of medlar* (*M. germanica*): *Soil*, rich, moist loam. *Position*, open sunny. *Plant*, Oct. to Mar. *Prune*, Nov. or Dec., simply thinning out crowded branches. *Gather fruit* when the stalk parts readily from the branch, on fine days. *Store* in cool dry room until partial decay sets in, then use. *Culture of flowering medlar* (*M. Smithi*): *Soil*, ordinary. *Position*, open shrubberies or lawns. *Plant*, Oct. to Mar. *Prune* as advised for medlar. *Propagate* by seeds sown 1 in. deep in ordinary soil outdoors in autn.; grafting in Mar.; budding in July. *Suitable stocks* for grafting & budding medlars on: White thorn for dry & sandy soils; quince for moist soils; common pear for ordinary soils.

Metake Bamboo (*Bambusa Metake*)—see *Bambusa*.

Metrosideros (Bottle Brush Tree).—*Ord.* Myrtaceæ. Greenhouse evergreen flowering shrubs. One species (*M. scandens*) climbing. *Nat.* New Zealand. *Int.* 1840. *Ht.* 3 to 6 ft. *Species* cultivated, 3. *Flowers*, crimson, red, white; May to Sept. *Compost*, equal parts peat, sandy loam & silver sand. *Position*, well drained pots in light airy sunny greenhouse. *Pot*, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Prune* straggly shoots slightly after flowering. *Temp.*, Mar. to Sept., 55° to 65° ; Sept. to Mar., 40° to 50° . *Propagate* by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell-glass in temp. 55° to 65° , May to July.

Meum (Badmoney, Baldmoney, Bear-wort, Mew, Spignel).—*Ord.* Umbelliferae. Hardy perennial aromatic herb. *Nat.* W. Europe (Britain). *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white; May. *Soil*, ordinary. *Position*, sunny beds, borders, banks or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems, Sept. *Water* freely in dry weather. *Propagate* by division of the roots, Oct., Nov., Mar. or Ap.

Mexican Daisy (*Erigeron maximum*)—see *Erigeron*.

Mexican Ivy (*Cobæa scandens*)—see *Cobæa*.

Mexican Mock-orange (*Philadelphus microphyllus*)—see *Philadelphus*.

Mexican Orange-flower-tree (*Choisya ternata*)—see *Choisya*.

Mexican Pelican-flower (*Cypripedium irapeanum*)—see *Cypripedium*.

Mexican Poppy (*Argemone mexicana*)—see *Argemone*.

Mexican Silver Fir (*Picea religiosa*)—see *Picea*.

Mexican Soap-plant (*Agave saponaria*)—see *Agave*.

Mexican Thistle (*Oniscus conspicua*)—see *Oniscus*.

Mexican Tiger Flower (*Tigridia pavonia*)—see *Tigridia*.

Meyenia.—*Ord.* Acanthaceæ. Stove evergreen-flowering shrubs. *Nat.* W. Africa. *Int.* 1857. *Ht.* 4 to 6 ft. *Species* cultivated, 2; variety 1. *Flowers*, blue, white, yellow; May to Sept. *Compost*, equal parts leaf-mould or well decayed manure, peat, fibrous loam & silver sand. *Position*, well drained pots in shady part of stove during growing period; light part during the resting period. *Pot.*, Feb. or Mar. *Prune* moderately, Feb. *Water* freely, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Syringe* daily, Mar. to Sept. *Apply* stimulants occasionally, May to Sept. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy peat & leaf-mould in temp. 75° to 85°, Jan. to May; cuttings of firm young shoots, 2 to 3 in. long, inserted in leaf-mould, peat & sand under bell-glass in temp. 75° to 85°, Feb. to June.

Mezereon (*Daphne mezereum*)—see *Daphne*.

Michauxia (Michaux's Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Levant, N. Persia. *Int.* 1787. *Ht.* 3 to 8 ft. *Species* cultivated, 2. *Flowers*, white, purple; June to Sept. *Soil*, moist sandy loam. *Position*, warm sheltered sunny borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Ap., transplanting seedlings into flowering position following July or Aug.; or by sowing seeds in Ap. where plants are required to grow.

Michaelmas Crocus (*Colchicum autumnale*)—see *Colchicum*.

Michaelmas Daisy (*Aster tripolium* & *A. Tradescanti*)—see *Aster*.

Michaux's Bell-flower (*Michauxia campanuloides*)—see *Michauxia*.

Mic-mac Potato (*Apios tuberosa*)—see *Apios*.

Microglossa (Shrubby Star-wort).—*Ord.* Compositæ. Hardy shrubby perennial. *Nat.* Himalayas. *Int.* 1883. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, blue, white; autn. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors. Mar. or Ap., or in sandy soil in cold frame, Ap.; division of roots, Oct. or Mar.

Microlepia.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* N. India, East Indies, Ceylon, Japan. *Int.* date unknown. *Ht.* 1 to 4 ft. *Species* cultivated, 5. *Fronds*, feather-shaped, crested. *Compost*, two parts peat, one each of loam, leaf-mould & sand. *Pot.*, Feb., Mar. or Ap. *Position*, pots or hanging baskets in shady part of greenhouse. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringing* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by spores sown on surface of pans of sandy peat in temp. 55° to 65° any time; division of rhizomes, Feb. or Mar.

Micromeria.—*Ord.* Labiateæ. Half-hardy shrubby perennials. *Nat.* S. W. Europe. *Int.* date unknown. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, purplish white; July to Oct. *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by cuttings inserted in ordinary sandy soil under hand-light in cold frame, Sept. to Nov.

Microsperma.—*Ord.* Loasaceæ. Half-hardy annual. *Nat.* Western United States. *Int.* 1849. *Ht.* 6 to 10 in. *Species* cultivated, 1. *Flowers*, yellow, fragrant; June to Sept. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, 4 to 6 in. apart in June. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in temp. 65°, Feb., transplanting seedlings when an inch high singly into 2-in. pots, & keep in temp. 55° to 65° till May, then place in cold frame till planting time.

Midsummer Men (*Sedum seledaphium*)—see *Sedum*.

Mignonette (*Reseda odorata*)—see *Reseda*.

Mignonette-vine (*Madaria elegans* & *M. corymbosa*)—see *Madaria*.

Mikania (Bone-set, Climbing Hemp-weed, Climbing Thorough-wort, German Ivy, Parlour Ivy).—*Ord.* Compositæ. Half-hardy perennial flowering climber. *Nat.* N. America. *Int.* 1823. *Ht.* 5 to 8 ft. *Species* cultivated, 1. *Flowers*, yellow, white; May to Oct. *Outdoor culture*: *Soil*, good ordinary.

Position, against S. or W. walls, sunny arbours or trellises. **Plant**, May. **Lift** in Oct., & store in pots in frost-proof greenhouse or frame. **Indoor culture**: **Compost**, two parts loam, one part leaf-mould or well decayed manure & little sand. **Position**, well drained pots with shoots trained round trellises, or up rafters, or in suspended baskets with shoots hanging down, in sunny greenhouse or window. **Pot**, Feb. or Mar. **Water** freely, Mar. to Oct.; moderately afterwards. **Apply stimulants** occasionally, May to Sept. **Temp.**, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. **Propagate** by cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring.

Milfoil (*Achillea millefolium*)—see Achillea.

Military Orchis (*Orchis militaris*)—see Orchis.

Milk-maid Holly (*Ilex aquifolium ferox albo-pictum*)—see Ilex.

Milk Purslane (*Euphorbia maculata*)—see Euphorbia.

Milk-Thistle (*Carduus Marianus* & *Silybum Marianum*)—see Silybum & Carduus.

Milk Vetch (*Astragalus onobrychus*)—see Astragalus.

Milk-weed Gentian (*Gentiana asclepiadea*)—see Gentiana.

Milk-wort (*Polygala calcarea*)—see Polygala.

Milla.—**Ord.** Liliaceæ. Hardy bulbous plants. **Nat.** Mexico. **Int.** date unknown. **Ht.** 6 in. **Species** cultivated, 1. **Flowers**, white; July to Oct. **Outdoor culture**: **Soil**, deep loam. **Position**, sunny well drained rockeries or borders. **Plant** bulbs 3 in. deep & 2 in. apart in masses, Sept. to Nov. & Feb. & Mar. **Protect**, Oct. to Mar. by covering of cinder ashes, cocoanut-fibre refuse or old manure. **Lift** & replant bulbs every four or five years. **Pot culture**: **Compost**, two parts sandy loam, one part leaf-mould & sand. **Pot**, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 5-in. pots. **Position**, cold frame from time of potting till growth begins, then remove to light, cool greenhouse. **Cover** pots entirely with cinder ashes or cocoanut-fibre refuse until growth begins. **Water** when growth commences, moderately at first, freely afterwards. **Keep** dry after flowers fade, & foliage turns yellow. **Repeat** annually. **Propagate** by seeds sown $\frac{1}{2}$ in. deep in well drained pots, pans, or baskets of sandy soil in cold frame or greenhouse, Feb. to Ap.; **offsets** removed & treated as old bulbs at potting or planting time.

Millet (*Panicum miliaceum*)—see Panicum.

Millet Rice (*Panicum colonum*)—see Panicum.

Miltonia.—**Ord.** Orchidaceæ. Stove epiphytal orchids. **Nat.** Brazil, Peru. **Int.** 1830. **Ht.** 6 to 9 in. **Species** cultivated, about 18; varieties several. **Flowers**, yellow, purple, rose, white, crimson, lilac, violet; May to Dec. **Compost**, equal parts fibrous peat & chopped sphagnum moss, with a few lumps of charcoal. **Position**, well drained pots or pans in shady part of stove. **Pot**, Feb. or Mar. **Water** freely, Mar. to Sept.; moderately afterwards. **Shade** from sun, & moist atmosphere essential. **Temp.**, Mar. to Oct., 65° to 75°; Oct. to Mar. 60° to 65°. **Growing period**, Feb. to Sept.; **resting period**, Sept. to Feb. **Propagate** by division of pseudo-bulbs at potting time.

Miltwaste (*Ceterach officinarum*)—see Ceterach.

Mimosa (Sensitive Plant, Humble Plant).—**Ord.** Leguminosæ. Stove perennials. **Orn.** foliage. **Nat.** Tropical America, Africa, Asia. **Int.** 1638. **Ht.** 1 to 6 ft. **Species** cultivated, 3. **Flowers**, purple, red; May to Sept. **Leaves**, feather-shaped, green, sensitive. **Compost**, equal parts peat, loa & sand. **Position**, for sensitive plants (*M. pudica* & *M. sensitiva*), well drained pots in light part of stove; for *M. marginata* similar, but with shoots trained up roof. **Pot**, Feb. or Mar. **Water** freely, Mar. to Sept.; moderately afterwards. **Temp.**, Mar. to Oct.; 65° to 75°. **Propagate** by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° Feb. or Mar.; cuttings of young shoots inserted in sandy soil in temp. 65° to 75°, at any time. *M. pudica* & *M. sensitiva*, though strictly perennials, are generally treated as annuals.

Mimulus (Cardinal Flower, Monkey Flower, Musk, Harrison's Musk).

—*Ord.* Scrophulariaceæ. Greenhouse & hardy annual & perennial herbs. *Nat.* California, Mexico, N. America, Chili, Australia. *Int.* 1826. *Ht.* 3 in. to 3 ft. *Species* cultivated, 1 annual; about 7 perennials; varieties many. *Flowers*, yellow, rose, scarlet, white, lilac, etc., fragrant; Mar. to Nov. *Pot. culture of common & Harrison's musk*: Compost, two parts loam, one part each of leaf-mould & decayed cow manure & sand. *Pot.* Feb. to Ap. *Position*, shady window or greenhouse. *Water* freely, Mar. to Oct.; moderately. Oct. to Dec.; keep nearly dry afterwards. *Apply* stimulants two or three times weekly, May to Sept. *Suitable stimulants*: Soot water, liquid guano, nitrate of soda, cow & horse manure. *Tem.* Mar. to Oct., 50° to 65°; Oct. to Mar., 40° to 50°. *Outdoor culture*: *Soil*, ordinary rich. *Position*, moist shady border. *Plant*, Ap. or May. *Culture of annual or spotted mimulus*: Sow seeds on surface of light soil; slightly cover with fine mould & place in temp. 55° to 65°. Feb. Mar. or Ap. *Transplant* seedlings when three leaves have formed 1 in. apart in shallow boxes of light mould. *Place* in temp. 55° until May, then transfer to cold frame. *Plant*, outdoors, 4 in. apart, in June. *Position*, shady bed or border. *Soil*, light, moist, well enriched with decayed manure. *Mulch* with cocoanut-fibre refuse or decayed manure. *Apply* stimulants occasionally, July to Sept. *Culture of perennial species*: (*M. cardinalis*, etc.): *Soil*, ordinary rich. *Position*, moist, shady border. *Plant*, Mar. to June. *Apply* stimulants occasionally, June to Oct. *Mulch* with decayed manure in Oct. *May* be grown in pots similar to common musk. *Propagate* by seeds sown, Feb. to May, on surface of light soil, & covered with a little sand or fine mould, in temp. 55° to 60°; cuttings of young shoots inserted in light sandy soil in temp. 55° to 65° at any time; division of roots, Feb. to May.

Mina.—*Ord.* Convolvulaceæ. Half-hardy annual climbers. *Nat.* Mexico. *Int.* date uncertain. *Ht.* 8 to 12 ft. *Species* cultivated, 2. *Flowers*, red, crimson; June to Nov. *Soil*, light, rich. *Position*, sunny walls, arbours, window boxes or windows, with shoots trained to trellises or sticks. *Plant*, June. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° in Feb. or Mar., transplanting seedlings to cold frame in May.

Miniature Sun-flower (*Heliopsis lævis*)—see *Heliopsis*.

Miniature Sun-flower Ox-eye (*Heliopsis lævis*)—see *Heliopsis*.

Minorca Box Tree (*Buxus balearica*)—see *Buxus*.

Minorca Clematis (*Clematis balearica*)—see *Clematis*.

Minorca Holly (*Ilex balearica*)—see *Ilex*.

Minskull Crab (*Mespilus germanica*)—see *Mespilus*.

Mint (*Mentha veridis*)—see *Mentha*.

Mirabilis (Marvel of Peru, Jalap of Peru, Garden Jalap, Sweet-scented Marvel of Peru, Many-flowered Marvel of Peru).—*Ord.* Nyctaginaceæ. Half-hardy & hardy perennial herbs. Tuberous rooted. *Nat.* Mexico, Central America, California. *Int.* 1596. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Flowers*, yellow, crimson, purple, fragrant; May to Oct. *Culture of half-hardy species* (Marvel of Peru): *Soil*, good, ordinary. *Position*, sunny beds or borders. *Plant* tuberous roots in Ap.; seedlings in June. *Apply* stimulants occasionally when plants are flowering. *Lift* tubers in Oct., and store in sand, cocoanut-fibre refuse or cinder ashes in frost proof place until Ap. *Culture of hardy species* (*M. longiflora* & *M. multiflora*): *Soil*, ordinary rich. *Position*, well drained sunny borders at base of S. walls. *Plant* Mar. or Ap. *Protect*, Nov. to Mar. with covering of dry litter or manure. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75°, Feb. or Mar., transferring seedlings to cold frame in May & planting out in June; division of tubers at planting time. *Marvel of Peru* may be treated as an annual.

Missouri Currant (*Ribes aureum*)—see *Ribes*.

Missouri Evening-Primrose (*Oenothera missouriensis macrocarpa*)—see *Oenothera*.

Missouri Hyacinth (*Brodiaea coccinea*)—see *Brodiaea*.

Mistletoe (*Viscum album*)—see *Viscum*.

Mitchella (Chequer-berry, Deer-berry, Partridge-berry, One-berry, Squaw-vine, Winter Clover).—*Ord.* Rubiaceæ. Hardy evergreen trailing herb. *Nat.* N. America. *Int.* 1761. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, white; June to Aug.; succeeded by small scarlet berries. *Soil*, equal parts peat & leaf-mould. *Position*, shady borders or rockeries. *Plant*, Oct. Nov., Mar. or Ap. *Propagate* by division of roots in Oct. or Mar.

Mitella (Mitre wort, Bishop's Cap).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* N. America. *Int.* 1731. *Ht.* 6 to 9 in. *Species* cultivated, 2. *Flowers*, white, yellow; Ap. and May. *Soil*, sandy peat. *Position*, partially shaded rockeries. *Plant*, Mar. or Ap. *Propagate* by division of the roots, Mar. or Ap.

Mitraria (Mitre Flower, Scarlet Mitre-pod).—*Ord.* Gesneraceæ. Hardy flowering trailer. Evergreen. *Nat.* Chiloe. *Int.* 1848. *Species* cultivated, 1. *Flowers*, scarlet; May to Aug. *Soil*, two parts fibrous peat, one part sand. *Position*, moist sheltered borders or rockeries. *Plant*, Sept. or Ap. *Pot culture*: *Compost*, two parts sandy peat, one part leaf-mould & sand. *Pot*, Sept. or Oct. *Position*, well drained pots in shady cold greenhouse or fernery. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by cuttings of shoots inserted in light soil under bell-glass in cold shady frame or greenhouse, Ap. to Sept.; division of roots in Ap.

Mitre-Flower (*Cyclamen persicum*)—see *Cyclamen*.

Mitre-pod (*Mitraria coccinea*)—see *Mitraria*.

Mitre-wort (*Mitella diphylla*)—see *Mitella*.

Mitriostigma (Citron-scented Gardenia).—*Ord.* Rubiaceæ. Stove evergreen flowering shrub. *Nat.* Natal. *Int.* date unknown. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, single, citron-scented; Jan. to May. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom), Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.

Mocassin Flower (*Cypripedium spectabile*)—see *Cypripedium*.

Mock-Orange (*Philadelphus coronarius*)—see *Philadelphus*.

Mock Orange-tree (*Philadelphus coronarius*)—see *Philadelphus*.

Mock-Plane (*Acer pseudo-platanus*)—see *Acer*.

Mock Privet (*Phillyrea angustifolia*)—see *Phillyrea*.

Modiola.—*Ord.* Malvaceæ. Hardy trailing perennial herb. *Nat.* N. America. *Int.* date unknown. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, red; June to Sept. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant*, Oct. or Mar. *Protect* in severe winters with a layer of cinder ashes, manure or leaf-mould. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light, sandy soil in temp. 50° in Mar. or Ap.; cuttings inserted in cold frame in July or Aug.

Mœhringia.—*Ord.* Caryophyllaceæ. Hardy herbaceous perennial. *Nat.* S. Europe. *Int.* 1775. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, white; June to Sept. *Soil*, ordinary. *Position*, exposed or shaded rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in boxes in cold frame, Mar.; cuttings under bell-glass in open, Ap.; division of plants in Oct. or Mar.

Mohoe (*Hibiscus arboreus*)—see *Hibiscus*.

Mohria (Frankincense).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Cape of Good Hope. *Int.* 1842. *Ht.* 9 to 12 in. *Species* cultivated, 1; variety 1. *Fronde*, feather-shaped, green, fragrant. *Compost*, two parts peat, one part small lumps of sandstone, one part silver sand. *Position*, well drained

pots in shady part of greenhouse, or in beds in Wardian cases in dwelling room. *Pot* or plant, Feb. or Mar. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Propagate* by spores sown on surface of fine sandy peat in pans & placed in temp. 75° to 80° any time.

Moldavian Balm (*Dracocephalum moldavicum*)—see *Dracocephalum*.

Molina (Indian Grass, Lavender Grass, Purple Moor Grass).—*Ord.* Gramineæ. Hardy perennial grass. *Nat.* Europe (Britain). *Ht.* 8 to 12 in. *Species* cultivated, none; variety of *M. cœrulea* only. *Leaves*, smooth, rigid, green, variegated with white. *Soil*, ordinary. *Position*, open or shady, as edgings to beds or borders. *Plant*, Oct. or Mar. to June. *Propagate* by division of roots, autn. or spring.

Molopospermum.—*Ord.* Umbelliferae. Hardy herbaceous perennial. Flowering & orn. foliage. *Nat.* S. Europe. *Int.* 1596. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, white, May to June. *Leaves*, large, handsome, fern-like green. *Soil*, ordinary. *Position*, partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in shady position outdoors in Mar., Ap. or Sept. division of roots, Oct. or Mar.

Moly (*Allium Moly*)—see *Allium*.

Momordica (Balsam Apple, Apple of Jerusalem, Squirting Cucumber).—*Ord.* Cucurbitaceæ. Half-hardy annual climbers. Orn. foliage. *Nat.* Australia, Africa, Asia. *Int.* 1568. *Ht.* 4 to 6 ft. *Species* cultivated, 3. *Flowers*, yellow. *Fruit*, round, oblong or cylindrical, reddish orange; Sept. *Indoor culture*: *Compost*, two parts decayed turfy soil, one part horse droppings or decomposed manure. *Position*, pots or beds with shoots trained up roof of sunny greenhouse. *Pot* or plant, Ap. or May. *Size* of pots, 8 or 10 in. *Water* freely. *Sy.inge* twice daily. *Moist* atmosphere essential. *Apply* stimulants occasionally when fruit forms. *Nip* off point of shoot at first joint beyond fruit. *Shade* from hot sun. *Temp.*, 65° to 75°. *Outdoor culture*: *Soil*, ordinary, rich. *Position*, against sunny walls, trellises, arbours or trailing over banks. *Plant*, June. *Water* freely in dry weather. *Apply* stimulants occasionally when fruit forms. *Pruning* of shoots not required. *Propagate* by seeds sown singly in 2-in. pots filled with light soil in temp. 65° to 75° in Feb. or Mar.

Monarda (Horse Balm, Horse Mint, Bradbury's Horse Mint, Bee Balm, Mountain Mint, Oswego Mint, Wild Bergamot, Dotted Horse Mint).—*Ord.* Labiatæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1656. *Ht.* 1 to 3 ft. *Species* cultivated, about 6; varieties several. *Flowers*, white, scarlet, pink, purple, lilac; June to Oct. *Leaves*, mint, balm or sage-scented. *Soil*, ordinary. *Position*, singly, or in masses in open or partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* with decayed manure in autn. or spring. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in partially shaded position outdoors, Mar. or Ap., or in boxes of light soil in cold frame or greenhouse in Mar.; division of roots in Oct. or Nov.

Monardella.—*Ord.* Labiatæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1877. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, orange scarlet, fragrant; Aug. to Nov. *Leaves*, fragrant. *Soil*, ordinary. *Position*, open or partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* with decayed manure in autn. or spring. *Propagate* by seed sown $\frac{1}{2}$ in. deep in light soil in partially shaded position outdoors, Mar. or Ap., or in boxes of light soil in cold frame or greenhouse in Mar.; division of roots, Oct. or Mar.

Money-flower (*Lunaria biennis*)—see *Lunaria*.

Money-in-beth-Pockets (*Lunaria biennis*)—see *Lunaria*.

Money-wort (*Lysimachia nummularia*)—see *Lysimachia*.

Money-wort Loose-strife (*Lysimachia nummularia*)—see *Lysimachia*.

Monkey-cup (*Nepenthes distillatoria*)—see *Nepenthes*.

Monkey-flower (*Mimulus moschatus*)—see *Mimulus*.

Monkey-Orchis (*Orchis tephrosanthos*)—see *Orchis*.

Monkey-puzzle (*Araucaria imbricata*)—see *Araucaria*.

Monk's-cowl (*Aconitum Napellus*)—see *Aconitum*.

Monk's-hood (*Aconitum Napellus*)—see *Aconitum*.

Monochætum.—*Ord.* Melastomacæ. Greenhouse evergreen flowering shrubs. *Nat.* Mexico, Peru, New Grenada, Guatemala. *Int.* date unknown. *Ht.* 1 to 2 ft. *Species* cultivated about 6. *Flowers*, red, rose, mauve, purple; Sept. to Mar. *Compost*, two parts fibrous peat, one part light loam, one part leaf-mould & little sand. *Position*, well drained pots in light greenhouse, Sept. to June; cold sunny frames, June to Sept. *Pot*, Mar. *Prune* shoots moderately close immediately after flowering. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringing* twice daily, Mar. to June. *Apply* stimulants occasionally, June to Oct. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Propagate* by cuttings of shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell-glass in temp. 65° to 75°, Mar. or Ap. *Tip* off points of shoots of young plants occasionally, Ap. to Aug., to induce bushy growth.

Monox Heather (*Empetrum nigrum* & *Vaccinium oxycoccus*)—see *Empetrum* & *Vaccinium*.

Monstera.—*Ord.* Aroidæ. Stove evergreen climbers. *Orn.* foliage & fruiting. *Nat.* Mexico. *Int.* date unknown. *Species* cultivated, 1. *Flowers*, yellow; June to Aug. *Leaves*, large, handsome, perforated, dark green. *Stems*, creeping, furnished with aerial roots. *Fruit*, cylindrical, fragrant, edible; ripe in autn. *Compost*, equal parts peat, leaf-mould & loam, little sand. *Position*, well drained border against damp wall of stove or warm fernery. *Plant*, Feb. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily afterwards. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 65° to 65°. *Propagate* by cuttings of the stems inserted in light soil in temp. 70° to 80°, any time.

Montbretia.—*Ord.* Iridacæ. Hardy deciduous bulbous plants. *Nat.* S. Africa. *Int.* 1780. *Ht.* 2 to 3 ft. *Species* cultivated, 2; varieties several. *Flowers*, orange-scarlet, yellow, orange-red; Feb. to Sept. *Outdoor culture*: *Soil*, equal parts sandy loam, leaf-mould & decayed manure. *Position*, sunny well drained borders. *Plant*, 3 in. deep & 2 in. apart in masses, Oct. to Mar. *Protect*, Nov. to Mar., by covering of dry litter. *Much* in Mar. with layer of decayed manure, first removing litter. *Water* occasionally in very dry weather. *Apply* stimulants occasionally during flowering period. *Lift* & replant bulbs annually. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry to Jan. *Temp.*, Sept. to Mar., 40° to 60°; other times, 60° to 60°. *Propagate* by offsets treated as advised for bulbs.

Monterey Cypress (*Cupressus macrocarpa*)—see *Cupressus*.

Monterey Pine-tree (*Pinus insignis*)—see *Pinus*.

Montezuma Cypress (*Taxodium distichum mexicanum*)—see *Taxodium*.

Monthly Rose (*Rosa indica*)—see *Rosa*.

Montpelier Milk-Vetch (*Astragalus monspessulanus*)—see *Astragalus*.

Moon-creeper (*Menispermum canadense* & *Ipomœa Bona-nox*)—see *Menispermum* & *Ipomœa*.

Moon Daisy (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Moon Fern (*Botrychium lunaria*)—see *Botrychium*.

Moon-penny (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Moon-seed (*Menispermum canadense*)—see *Menispermum*.

Moon-wort (*Botrychium lunaria*)—see *Botrychium*.

Moonog Heather (*Empetrum nigrum* & *Vaccinium oxycoccos*)—see *Empetrum* & *Vaccinium*.

Moor-berries (*Vaccinium oxycoccos*)—see *Vaccinium*.

Moor-Heath (*Erica vagans*)—see *Erica*.

Moor-myrtle (*Myrica Gale*)—see *Myrica*.

Moor-wort (*Andromeda polifolia*)—see *Andromeda*.

Moorva Plant (*Sansevieria Roxburghi*)—see *Sansevieria*.

Moræa (Butterfly Iris, Spanish Nut Iris).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat.* Cape of Good Hope, Mediterranean Region. *Int.* 1597. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 12. *Flowers*, yellow, purple, blue, violet, white, red; *Ap.* to *Aug.* *Outdoor culture*: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, *Sept.* to *Jan.*, placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in *Mar.* with cow manure. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs 3 in. deep, in each pot in *Nov.*, & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till *Jan.* *Temp.*, *Sept.* to *Mar.*, 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Moreton Bay Fig-tree (*Ficus macrophylla*)—see *Ficus*.

Moreton Bay Lily (*Euryclis Cunninghami*)—see *Euryclis*.

Moreton Bay Pine-tree (*Araucaria Cunninghami*)—see *Araucaria*.

Moreton Bay Trumpet Jasmine (*Tecoma jasminoides*)—see *Tecoma*.

Morina (Whorl-flower).—*Ord.* Dipsacæ. Hardy perennial herbs. *Nat.* Nepal, Himalayas. *Int.* 1839. *Ht.* 6 in. to 2 ft. *Species* cultivated, 2. *Flowers*, yellow, white, pink, crimson; *May* to *Aug.* *Soil*, deep moist sandy loam. *Position*, partially shaded sheltered borders. *Plant*, *Sept.* to *Nov.*, *Mar.* or *Ap.* *Protect*, *Nov.* to *Mar.*, by covering of litter. *Propagate* by seeds sown ¼ in. deep in sandy peat & leaf-mould in cold frame in *Sept.* or *Oct.*, *Mar.* or *Ap.*; division of roots, *Sept.*

Mormodes.—*Ord.* Orchidaceæ. Stove deciduous epiphytal orchids. *Nat.* Central America, Mexico, Columbia. *Int.* 1837. *Ht.* 2 to 3 ft. *Species* cultivated, 3; varieties 3. *Flowers*, yellow, brown, pink, red, white, crimson, fragrant; *July* to *Oct.* *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth begins until leaves fall off; very little other times. *Temp.*, *Mar.* to *Sept.*, 65° to 85°; *Sept.* to *Mar.*, 60° to 70°. *Propagate* by division of plant at potting time.

Morning Glory (*Ipomæa purpurea*)—see *Ipomæa*.

Morus (Common Mulberry, American Red Mulberry, Italian Mulberry).—*Ord.* Urticaceæ. Hardy deciduous trees. *Orn.* foliage & fruit bearing. *Nat.* Eastern Asia, N. America. *Int.* 1548. *Ht.* 20 to 70 ft. *Species* cultivated, 3. *Flowers*, greenish white; *May* to *July*. *Fruit*, oblong white, red or black berries; ripe, *Sept.* & *Oct.* *Culture of mulberry* (*M. nigra*): *Soil*, light, deep moist loam. *Position*, sunny, sheltered from North winds, in England; against South walls in Scotland. *Plant*, *Nov.* to *Mar.* *Depth* of roots below surface 6 in. *Prune* in *Feb.*, simply thinning over-crowded branches & shortening straggling ones. *Shorten* young shoots growing out of front of branches of trees grown against walls to 6 in. in *July*. *Top-dress* surface of soil equal to spread of branches with well decayed manure in *Oct.* or *Nov.* *Suitable artificial manure*: two parts nitrate of soda, one part superphosphate, one part kainit. *Apply* in *Feb.* or *Mar.* at the rate of 4 oz. per square yard. *Gather* fruit when ready to drop. *Spread* layer of straw or lawn mowings for fruit to fall upon. *Culture of other species*: *Soil*, ordinary. *Position*, sunny sheltered shrubberies or singly on lawns. *Plant*,

Oct. to Mar. Prune as advised for mulberry. Propagate by seeds sown $\frac{1}{2}$ in. deep in light sandy soil, in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June or July, or in similar soil & depth outdoors in May; cuttings 6 to 8 in. long, partly of current & partly of two-year-old shoots removed from upper part of tree, & inserted half their depth in light soil in sheltered position outdoors, Sept., Oct. or Mar.; layering shoots in Sept.; grafting in Mar.

- Moss-berries** (*Vaccinium oxycoccus*)—see *Vaccinium*.
Moss Fern (*Polypodium dryopteris*)—see *Polypodium*.
Moss-Pink (*Phlox subulata*)—see *Phlox*.
Moss Rose (*Rosa centifolia muscosa*)—see *Rosa*.
Mossy-cup Oak (*Quercus cerris*)—see *Quercus*.
Mossy Phlox (*Phlox subulata*)—see *Phlox*.
Mossy Saxifrage (*Saxifraga hypnoides*)—see *Saxifraga*.
Moth-mullein (*Verbascum Blattaria*)—see *Verbascum*.
Moth-plant (*Phalænopsis Schilleriana*)—see *Phalænopsis*.
Mother-of-Thousands (*Linaria cymbalaria* & *Saxifraga sarmentosa*)—see *Linaria* & *Saxifraga*.
Mount Athos Crocus (*Crocus pulchellus*)—see *Crocus*.
Mt. Atlas Cedar (*Cedrus atlantica*)—see *Cedrus*.
Mount Caper (*Orchis latifolia*)—see *Orchis*.
Mount Enos Fir (*Picea cephalonica*)—see *Picea*.
Mount Gargano Bell-flower (*Campanula garganica*)—see *Campanula*.
Mt. Olympus St. John's-wort (*Hypericum olympicum*)—see *Hypericum*.
Mountain Alder (*Alnus viridis*)—see *Alnus*.
Mountain Ash (*Pyrus aucuparia*)—see *Pyrus*.
Mountain Avens (*Dryas octopetala*)—see *Dryas*.
Mountain Bladder Fern (*Cystopteris montana*)—see *Cystopteris*.
Mountain Buckler Fern (*Lastrea oreopteris*)—see *Lastrea*.
Mountain Butter-cup (*Ranunculus montana*)—see *Ranunculus*.
Mountain Butter-wort (*Pinguicula alpina*)—see *Pinguicula*.
Mountain Cat's-foot (*Antennaria dioica rosea*)—see *Antennaria*.
Mountain Centaury (*Centaurea montana*)—see *Centaurea*.
Mountain Clematis (*Clematis montana*)—see *Clematis*.
Mountain Cotoneaster (*Cotoneaster frigida*)—see *Cotoneaster*.
Mountain Cowslip (*Primula Auricula*)—see *Primula*.
Mountain Daffodil (*Narcissus montanus* & *N. poculiformis*)—see *Narcissus*.
Mountain Ebony-tree (*Bauhinia variegata*)—see *Bauhinia*.
Mountain Elm (*Ulmus montana*)—see *Ulmus*.
Mountain Evening-Primrose (*Oenothera montana*)—see *Oenothera*.
Mountain-Fern (*Lastrea oreopteris*)—see *Lastrea*.
Mountain-Fringe (*Adiantum cirrhosum*)—see *Adiantum*.
Mountain Flea-bane (*Erigeron alpinus*)—see *Erigeron*.
Mountain Forget-me-not (*Myosotis rupicola*)—see *Myosotis*.
Mountain Geranium (*Geranium pyrenaicum*)—see *Geranium*.
Mountain Hawk-weed (*Hieracium alpinum*)—see *Hieracium*.
Mountain Houseleek (*Sempervivum montanum*)—see *Sempervivum*.
Mountain Ixia-lily (*Ixiolirion montanum*)—see *Ixiolirion*.
Mountain Kidney Vetch (*Anthyllis montana*)—see *Anthyllis*.
Mountain Mad-wort (*Alyssum montanum*)—see *Alyssum*.
Mountain Marigold (*Senecio Lyalli*)—see *Senecio*.

- Mountain Milk-Vetch** (*Astragalus alpinus*)—see *Astragalus*.
Mountain Mint (*Monarda didyma*)—see *Monarda*.
Mountain Paisley Fern (*Allosorus crispus*)—see *Allosorus*.
Mountain Pasque-flower (*Anemone montana*)—see *Anemone*.
Mountain Pine-tree (*Pinus pumilio*)—see *Pinus*.
Mountain Pink (*Dianthus cæsius*)—see *Dianthus*.
Mountain Poly (*Bartsia alpina*)—see *Bartsia*.
Mountain Rocket (*Saxifraga granulata* fl. pl.)—see *Saxifraga*.
Mountain Rue (*Ruta montana*)—see *Ruta*.
Mountain Sandwort (*Arenaria montana*)—see *Arenaria*.
Mountain Saintfoin (*Onobrychis montana*)—see *Onobrychis*.
Mountain St. Peter's-wort (*Symphoricarpos montana*)—see *Symphoricarpos*.
Mountain Snow (*Arabis albida*)—see *Arabis*.
Mountain Spider-wort (*Lloydia serotina*)—see *Lloydia*.
Mountain Spikenhard (*Valeriana tuberosa*)—see *Valeriana*.
Mountain Spinach (*Atriplex hortensis*)—see *Atriplex*.
Mountain-sweet (*Ceanothus americanus*)—see *Ceanothus*.
Mountain Tea-plant (*Gaultheria procumbens*)—see *Gaultheria*.
Mountain Vine (*Viola lutea*)—see *Viola*.
Mountain Violet (*Viola lutea*)—see *Viola*.
Mournful-Widow (*Scabiosa atro-purpurea*)—see *Scabiosa*.
Mouse-Chop (*Mesembryanthemum marinum*)—see *Mesembryanthemum*.
Mouse-ear Chickweed (*Cerastium tomentosum*)—see *Cerastium*.
Mouse-ear Hawk-weed (*Hieracium pilosella*)—see *Hieracium*.
Mouse-ear Scorpion-grass (*Myosotis palustris*)—see *Myosotis*.
Moutan (*Pæonia Moutan*)—see *Pæonia*.
Moving-plant (*Desmodium gyrans*)—see *Desmodium*.
Mozambique Lily (*Gloriosa virescens*)—see *Gloriosa*.
Mud Plantain (*Heteranthera reiniformis*)—see *Heteranthera*.
Mugget (*Asperula odorata* & *Convallaria majalis*)—see *Asperula* & *Convallaria*.
Mugwet (*Asperula odorata* & *Convallaria majalis*)—see *Asperula* & *Convallaria*.
Mühlenbeckia (Native Ivy of Australia).—*Ord.* Polygonaceæ. Greenhouse & hardy trailing & climbing shrubs. Evergreen. *Nat.* Australia, New Zealand, Solomon Island. *Int.* 1822. *Species* cultivated, 2 greenhouse; 1 hardy. *Flowers*, pink, white, green; June to Sept. *Culture of greenhouse species*: *Compost*, two parts sandy loam, one part peat & sand. *Position*, well drained pots or beds, with shoots trained to trellises or rafters. *Pot* or *plant*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Prune*, Feb., removing weak shoots only. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 45° to 51°. *Culture of hardy species*: *Soil*, sandy loam. *Position*, sunny rockery. *Plant*, Oct., Nov., Mar. or Ap. *Protect*, Nov. to Ap. by covering of dry litter or fern. *Propagate* greenhouse species by cuttings of young shoots inserted in sandy peat under bell-glass in temp. 60° to 70° in June or July; hardy species by cuttings inserted in sandy soil in shady position outdoors, June to Sept.
Mulberry-tree (*Morus nigra*)—see *Morus*.
Mule Fern (*Hemionitis palmata*)—see *Hemionitis*.
Mule Pink.—Hybrid varieties of *Dianthus*. For culture, see paragraph on "Pinks" under head of *Dianthus*.
Mule Polypody (*Lastrea filix-mas*)—see *Lastrea*.
Mullein (*Verbascum Thapsus*)—see *Verbascum*.

Mummy Pea (*Pisum sp.*)—see *Pisum*.

Mummy Wheat (*Triticum compositum*)—see *Triticum*.

Mungeet (*Rubia cordifolia*)—see *Rubia*.

Musa (Banana, Abyssinian Banana, Chinese Banana, Adam's Fig).—*Ord.* Scitamineæ. Stove herbaceous perennials. *Orn.* foliage & edible fruiting. *Nat.* Abyssinia, China, India, W. Indies. *Int.* 1690. *Ht.* 4 to 20 ft. *Species* cultivated, about 6. *Inflorescence*, yellow, scarlet, green; Jan. to Ap.; succeeded by oblong pods borne in huge clusters. *Leaves*, very large, oblong, green. *Compost*, two parts good loam, one part well decayed manure & one part sand. *Position*, pots, tubs or beds in lofty sunny stove. *Pot* or plant, Jan. to Ap. *Water* copiously, Feb. to Oct.; about once fortnightly afterwards. *Syringe* twice daily, Feb. to Sept.; once daily, Sept. to Feb. *Moist atmosphere* essential. *Apply* stimulants twice or three times weekly, Mar. to Oct. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Outdoor culture* of *M. ensete* & *M. superba*. *Position*, sunny sheltered borders or nooks. *Place* in position first or second week in June, plunging pot or tub to its rim in the ground. *Water* copiously. *Apply* stimulants once a week. *Lift* & replace in stove in Sept. May also be planted in ordinary rich soil in June, freely watered, lifted in Sept. & roots stored close together in temp. 45° to 55° until following June. *Propagate* by suckers removed from parent plant & placed in pots in temp. 75° to 85° any time of year.

Muscadine Grape (*Vitis vulpina*)—see *Vitis*.

Muscari (Grape Hyacinth, American Grape Hyacinth, Pearls of Spain, Purse Tassels, Tassel Hyacinth, Feathered Grape Hyacinth, Musk Grape Hyacinth, Starch Hyacinth, Sky-blue Grape Hyacinth).—*Ord.* Liliaceæ. Hardy bulbous flowering plants. *Deciduous*. *Nat.* S. of Europe (Britain), Armenia, Caucasus, Persia. *Int.* (foreign species) 1596. *Ht.* 4 to 18 in. *Species* cultivated, 19; varieties several. *Flowers*, blue, violet, white, yellow, purple, fragrant; Mar. to June. *Outdoor culture*: *Soil*, deep sandy loam. *Position*, sunny beds, borders or rockeries. *Plant*, Aug. to Nov. in lines or masses. *Depth for planting*: Small bulbs 2 in. deep & 1 in. apart; large bulbs 4 in. deep & 3 to 4 in. apart. *Mulch* with decayed manure, Nov. *Lift*, divide & replant every third year. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould or well decayed cow manure & one part river sand. *Pot*, Aug. to Nov., placing 18 to 20 small bulbs, 1 in. apart, in a 5-in. pot; or 3 to 5 large sized bulbs 1 in. deep in similar pots. *Position*, under layer of cinder ashes from time of potting till growth commences, then in cold frame, cool greenhouse or window till past flowering, afterwards in sunny spot outdoors. *Water* moderately from time growth commences till foliage fades, then keep dry. *Repot* annually. *Apply* weak stimulants once or twice during flowering period. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in boxes or cold frame, or outdoors in Sept.; offsets from old bulbs removed when lifting & planted as advised for full-sized bulbs. Seedlings flower when 3 to 4 years old.

Muscovite Rose (*Scabiosa atro-purpurea*)—see *Scabiosa*.

Mushroom (*Agaricus campestris*).—*Ord.* Fungi. Hardy esculent vegetable. *Nat.* Europe (Britain), N. Africa, America & Asia. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Suitable manures*: (1) Two thirds fresh horse droppings, one third short stained straw; remove long unstained straw. Place this in a heap outdoors & turn over six days afterwards. Turn again on four alternate days, then use. (2) Peat-moss litter, after use as bedding for horses. Prepare as advised for horse manure. *Suitable soil*: (1) Well decayed turfy top spit loam. (2) Old chrysanthemum mould. (3) Ordinary garden soil enriched with $\frac{1}{2}$ lb. of bone meal or 1 oz. of superphosphate of lime to every bushel. (4) Light sandy soil with $\frac{1}{2}$ lb. of common salt added to every bushel. *Position for beds*: in the open or against walls facing south, sheltered from N. & E. winds (outdoors); sheds, cellars, stables, cupboards,

greenhouses. *Period for forming beds*: outdoors, July, Aug., Oct., Dec. or Jan.; sheds, etc. July to Feb. *Temp.* for indoor culture, Sept. to May, 55° to 65°. *Dimensions of beds*: outdoors, 2½ ft. wide at base, 2½ ft. high, 6 in. wide at apex; indoors, 3 to 4 ft. wide, 9 in. deep, no limit as to length. *Tread* or beat manure quite firm in beds. *Spawning*: Insert portions of spawn nearly level with surface, smooth side outwards & 9 in. apart. *Temp.* for insertion of spawn, 80° 1 in. below surface. *Quantities of spawn*: Divide each brick into eight portions. *Size of bricks*: 9 in. long, 6 in. wide, 2 in. deep. *Bushel of spawn* consists of 16 bricks. *Period for covering beds with soil*: Three days after insertion of spawn. *Depth of soil*: 1 in. if heavy; 1½ in. if medium; 2 in. if light or sandy. *Make soil firm.* *Water* previously if dry. *Cover beds afterwards* with 6 in. of straw or litter in sum. or autn.; 12 to 18 in. of similar material in winter. *Complete darkness essential.* *Apply tepid water* moderately when surface is dry only. *Suitable stimulants*: 2 oz. of common salt to 1 gallon; ¼ oz. nitrate of soda to 1 gallon; ¼ oz. of nitrate of potash to 1 gallon; 1 oz. of sulphate of ammonia to 4 gallons of water, each to be applied in a tepid state occasionally after the beds commence bearing. *Learing commences* six weeks after spawning. *Duration of bearing*, two to three months. *Culture in cold frames*: Insert spawn 1 in. deep & 9 in. apart in cucumber or melon bed in July. Keep frame closed after cucumbers and and melons have ceased growth. *Water* occasionally. Apply one of above stimulants when mushrooms appear. *Culture on sides of hotbed*: Insert spawn 2 in. deep & 9 in. apart in manure. Cover with 1 or 2 in. of soil 10 days afterwards, & protect with layer of straw or litter. *Culture in pots or boxes*: Prepare manure as advised for beds. Fill 10 in. pots or boxes (9 in. deep, 2 to 3 ft. wide & long) to within 1 in. of top with manure. Beat this quite firm. Spawn & cover with soil & litter as advised for beds. Place pots, etc., in cool cellar, cupboard or greenhouse; protect from light. Keep soil moderately moist & covered with straw always. *Temp.* in winter 55° to 65°. *Culture in Grass*: Cut pieces of turf 6 to 12 in. square, 1 in. thick, and 3 ft. apart. Stir soil below and press into it three or four lumps of spawn, about the middle of June. Replace turf and water occasionally if dry. Best results obtained where herbage is short, soil loamy and dry, and position sunny. *Gather mushrooms* with whole of stem attached: do not leave stump in bed. *Average cost of forming outdoor bed* (2½ ft. high, 2½ ft. wide at base, 6 in. wide at apex) 5s. per lineal yard. *Average value of produce per lineal yard* 1½s. *Average yield of bed* 25 yards long, 350 to 450 lbs. *Propagate* by mycelium obtained from fertile or bearing beds, & inserted in specially prepared bricks composed of cow manure & soil, afterwards dried, & stored in a cool dry place until required for use.

Musk (*Mimulus moschatus*)—see *Mimulus*.

Musk Grape-Hyacinth (*Muscari moschatum*)—see *Muscari*.

Musk Mallow (*Malva moschata*)—see *Malva*.

Musk Melon (*Cucurbita moschata*)—see *Cucurbita*.

Musk Milfoil (*Achillea moschata*)—see *Achillea*.

Musk-scented Daffodil (*Narcissus moschatus*)—see *Narcissus*.

Musk-scented Rose (*Rosa moschata*)—see *Rosa*.

Musseenda.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical Asia & Africa. *Int.* 1805. *Ht.* 3 to 5 ft. *Species* cultivated, 2. *Flowers*, yellow, orange; bracts, white, Sept. to Mar. *Compost*, equal parts peat, loam, leaf-mould & silver sand. *Position*, well drained pots in light moist stove. *Pot.* Feb. to Ap. *Prune* moderately after flowering. *Temp.*, Feb. to Oct., 65° to 85°; Oct. to Feb., 55° to 65°. *Water* freely, Ap. to Sept.; moderately, Sept. to Nov. & Feb. to Ap.; keep somewhat dry, Nov. to Feb. *Syringe* daily, Feb. to Oct. *Propagate* by cuttings of young shoots inserted in sandy soil under bell-glass in temp 70° to 80°, May to July.

Mustard (*Sinapis alba*)—see *Sinapis*.

Mutisia.—*Orl. Compositæ.* Stove, greenhouse or hardy climbing; flowering shrubs. Evergreen. *Nat.* Brazil, Chili, New Granada. *Int.* 1823. *Ht.* 6 to 20 ft. *Species* cultivated, 1 stove; 2 greenhouse; 1 hardy. *Flowers*, red, orange, white, rose, pink, yellow; May to Oct. *Culture of stove species:* *Compost*, two parts heavy loam, one part leaf-mould, half part sand. *Position*, well drained pots or beds; shoots trained up roof or round trellis. *Pot*, Feb. or Mar. *Prune* into shape, Jan. or Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept. *Apply* stimulants occasionally during flowering period. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Culture of greenhouse species:* *Compost* as above. *Position*, pots or beds; shoots trained up rafters or round trellises. *Pot* or plant, Feb. or Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Apply* stimulants occasionally, May to Sept. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Culture of hardy species (M. decurrens):* *Soil*, ordinary rich. *Position*, well drained border against sheltered, partially shaded wall. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Protect* from slugs by placing layer of fine coke or cinders round base of stems. *Propagate* stove and greenhouse species by cuttings of half ripened shoots inserted in sand under bell-glass in temp. 55° to 65°, May or June; hardy species by cuttings of similar shoots inserted in sand in shady cold frame or greenhouse in Ap. or May.

Myosotidium (Chatham Islands Forget-me-not).—*Ord. Boraginacæ.* Hardy herbaceous perennial. *Nat.* Chatham Islands. *Int.* 1868. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, white, blue; Ap. to June. *Soil*, ordinary. *Position*, cool & damp sheltered border. *Plant*, Oct. or Mar. *Water* freely in dry weather. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in Ap. where plants are required to grow. *This plant should be disturbed as little as possible.*

Myosotis (Forget-me-not, Scorpion Grass).—*Ord. Boraginacæ.*—Hardy perennials. *Nat.* Europe (Britain). *Ht.* 2 in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, blue, yellow; Mar. to Aug. *Culture of M. alpestris:* *Soil*, moist gritty loam. *Position*, partially shady rockery, surrounded by small pieces of sandstone. *Plant*, Mar. or Ap. *Culture of M. azorica, M. dissitiflora, M. palustris & M. sylvatica:* *Soil*, ordinary. *Position*, as edgings to, or in masses in partially shady beds or borders. *Plant*, Oct., Nov. or Mar., 4 to 6 in. apart. These are best treated as biennials—namely, raised from seed sown outdoors in Ap., May or June, transplanted into the beds or borders in Oct. to flower following year. *Propagate* by seeds sown $\frac{1}{4}$ in. deep outdoors in spring or sum.; cuttings inserted in sandy soil under hand-light in June or July; division of roots in Mar. or Oct.

Myrica (Bay-berry, Candle-berry Myrtle, Tallow-shrub, Wax Myrtle).—*Ord. Myricacæ.* Hardy deciduous & evergreen shrubs. *Nat.* Europe (Britain), Asia, America. *Int.* (foreign species) 1699. *Ht.* 2 to 20 ft. *Species* cultivated, 2 evergreen; 1 deciduous. *Flowers*, green, red, brown; Feb. to June. *Leaves*, lance-shaped, green, highly fragrant. *Soil*, moist sandy peat. *Position*, open sheltered borders. *Plant*, Oct. to Mar. *Prune* deciduous species, Nov. to Feb.; evergreen species, Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sheltered position outdoors in autn.; cuttings inserted in sandy soil in sheltered position outdoors, Sept. or Oct.; layering shoots in Sept. or Oct.; division of plants, Oct. to Mar.

Myricaria (German Tamarisk).—*Ord. Tamaricacæ.* Hardy deciduous flowering shrub. *Nat.* Central Europe & Asia. *Int.* 1582. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, white, rose; June to Sept. *Soil*, ordinary, sandy. *Position*, open sunny borders or banks. *Plant*, Oct. to Mar. *Prune* into shape, Nov. to Feb. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil in open sunny position outdoors in Mar. or Ap.; cuttings of firm young shoots inserted in sandy soil outdoors, Aug. to Nov.

Myrobella Plum (*Prunus myrobalana*)—see *Prunus*.

Myrrhis (Anise, British Myrrh, Great Chervil, Sweet Chervil, Sweet Cicely, Sweet Fern).—*Ord.* Umbelliferae. Hardy perennial aromatic herb. *Orn.* foliage. *Nat.* Europe (Britain). *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, white; May. *Leaves* finely divided, fern-like, fragrant. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors, Sept. or Ap.; division of roots, Oct. or Mar.

Myrsiphyllum (Boston Smilax, Smilax Vine, Wreath Lily).—*Ord.* Liliaceae. Greenhouse evergreen herbaceous twiner. *Nat.* Cape of Good Hope. *Int.* 1702. *Ht.* 6 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish-white; June. *Leaves*, small, green, glossy. *Shoots*, slender, graceful. *Compost*, two parts sandy loam, one part leaf-mould, half part sand. *Position*, well drained pots or beds; shoots trained up trellises, strings or rafters. *Pot* or plant, Feb. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Oct. *Apply* stimulants occasionally, May to Sept. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 55° to 65°, Mar. to Ap.; cuttings of shoots inserted in sandy soil under bell-glass in temp. 55° to 65°, spring or sum.; division of roots at potting time.

Myrtle (*Myrtus communis*)—see Myrtus.

Myrtle-Flag (*Acorus calamus*)—see Acorus.

Myrtle Grass (*Acorus calamus*)—see Acorus.

Myrtle-leaved Box Tree (*Buxus sempervirens myrtifolia*)—see Buxus.

Myrtle-leaved Holly (*Ilex aquifolium myrtifolia*)—see Ilex.

Myrtle-Sedge (*Acorus calamus*)—see Acorus.

Myrtle-Spurge (*Euphorbia Lathyris*)—see Euphorbia.

Myrtus (Myrtle, Broad-leaved Dutch Myrtle, Portugal Myrtle, Nutmeg Myrtle, Rosemary leaved Myrtle, Thyme-leaved Myrtle, Small-leaved Myrtle, Roman Myrtle, Box-leaved Myrtle, Variegated-leaved Myrtle, Woolly Myrtle)—*O.d.* Myrtaceae. Greenhouse & half-hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* S. Europe, Chili, China. *Int.* 1597. *Ht.* 3 to 15 ft. *Species* cultivated, 3; varieties several. *Flowers*, white, fragrant; May to July. *Fruit*, oblong or round, purplish black berries; fragrant, edible. *Leaves*, egg or lance-shaped, green, fragrant. *Culture in greenhouses*: *Compost*, two parts sandy loam, one part leaf mould, half a part sand. *Position*, well drained pots or tubs, or in beds with shoots trained to walls, in light sunny airy greenhouses. *Place* pot plants in sunny position outdoors, June to Sept. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Oct. *Apply* stimulants once a week, May to Sept., to healthy plants only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *May be grown* in dwelling rooms or windows under similar treatment. *Outdoor culture of M. communis* (Common Myrtle): *Soil*, ordinary sandy. *Position*, well drained borders against sheltered S. walls in S. or S. W. of England only. *Plant*, Oct. or Mar. *Protect*, Oct. to Mar. in severe winters with mats or straw. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 60° to 70° in autn. or spring; cuttings of young shoots, 2 in. long, inserted in sandy soil under bell-glass in temp. 65° to 75°, spring and sum.; cuttings of firm shoots, 2 to 3 in. long, inserted in sandy soil in cool greenhouse or window, June or July; branches, 5 to 6 in. long, inserted in bottles of water suspended in sunny window or greenhouse, sum.

Nægelia.—*Ord.* Gesneriaceae. Stove tuberous-rooted herbaceous perennials. Flowering & orn. foliage. *Nat.* Mexico, Central America. *Int.* 1840. *Ht.* 1 to 2 ft. *Species* cultivated, 5; varieties several. *Flowers*, scarlet, white, orange; July to Ap. *Leaves*, heart-shaped, green or crimson, velvety. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained pots or pans

in shady part of plant stove. *Pot.*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* tubers 1 in. deep singly in 5 in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering*, gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 75°. *Store* when foliage has decayed on their sides under stage till potting time in temp. of 50° to 65°. *Propagate* by seeds sown on surface of well drained pots of sandy peat, in temp. 75°, Mar. or Ap.; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; division of rhizomes at potting time.

Naked-flowered Azalea (*Azalea nudiflora*)—see Azalea.

Naked-flowered Crocus (*Crocus nudiflorus*)—see Crocus.

Naked Ladies (*Colchicum autumnale*)—see Colchicum.

Naked-stalked Globe-Daisy (*Globularia nudicaulis*)—see Globularia.

Naked-Stemmed Iris (*Iris nudicaulis*)—see Iris.

Naked-stemmed Sun-rose (*Helianthemum nudicaule*)—see Helianthemum.

Nancy Pretty (*Saxifraga umbrosa*)—see Saxifraga.

Nankeen Lily (*Lilium testaceum*)—see Lilium.

Nanodes.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchid. *Nat.* Ecuador. *Int.* date unknown. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, green, brown, purple; Mar. to Nov. *Compost*, equal parts fibry peat & sphagnum moss. *Position*, in suspended baskets or on blocks of wood next the roof. *Place* in basket or on block, Feb. to Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Ap. to Nov., 55° to 65°; Nov. to Ap., 45° to 55°. *Growing period*, all the year round, no resting required. *Propagate* by division of plants in Feb. or Mar.

Narcissus (Daffodil, Daffadowndilly, Butter & Eggs, Eggs & Bacon, Common Jonquil, Sweet Nancy, Camparnelle, Post's Narcissus, Chinese Sacred Lily, Chalice Flower, Lent Lily, Lent Rose, Yellow Crow Bells, Whitsun Lily, Bell Rose, Affadil, Ajax, Two-coloured Daffodil, Peerless Primrose, Hoop Petticoat, Seashore Daffodil, Bazelman Minor Daffodil, Yellow Rush-leaved Daffodil, Horsefield's Daffodil, Incomparable Daffodil, Rush-leaved Daffodil, Golden Daffodil, Pigmy Daffodil, Tenby Daffodil, Dwarf Daffodil, Musk-scented Daffodil, Queen Anne's Daffodil, Polyanthus Daffodil, Cyclamen Daffodil, French Daffodil, Telamon's Daffodil, Mountain Daffodil, One-Flowered Daffodil).—*Ord.* Amaryllidaceæ. Hardy bulbous perennials. *Nat.* Britain, France, Spain, Italy, Portugal, Sweden, N. Africa, N. India, China, Japan, Switzerland, Greece, Barbary, Sicily, Algiers, Palestine, Canary Islands. *Int.* (foreign species) 1570. *Ht.* 3 to 18 in. *Species* cultivated, 20; hybrids, about 14; varieties, numerous. **CLASSIFICATION:** *Division I.* Maguicoronati (coffee-cup shaped blooms)—*Ex.* N. pseudo-narcissus (flat leaf); N. bulbocodium (rush-leaf). *Sub-divisions:* 1. Corbularia (Hoop-petticoat Daffodils); 2. Ajax (trumpet). *Division II.* Medicoronati (tea-cup shaped blooms)—*Ex.* N. incomparabilis (flat leaf); N. triandrus (rush leaf). *Sub-divisions:* 3. Gauymedes (Cyclamen-flowered); 4. Queltia (Peerless & Non-such Daffodils). *Division III.* Parvicoronati (tea-saucer shaped)—*Ex.* N. tazetta (flat leaf); N. jonquilla (rush leaf). *Sub-divisions:* 5. Hermione (Jonquil); 6. Eunarcissus (Post's narcissus); 7. Aurelia (Broussonet's narcissus). *Flowers*, single or double; yellow, white, orange, red, fragrant; Sept. to June. **OUTDOOR CULTURE:** *Soil*, ordinary for common kinds; sandy loam for N. bulbocodium & vars.; peaty soil for N. cyclamineus. No manure must be applied. *Position*, partially or quite shady beds or borders facing N. or N.E. for robust kinds; rockeries sheltered from N. or N.E. winds for

choice or dwarf kinds. *Plant*, June to Oct. *Depth for planting*, 3 to 4 in. on heavy soils; 6 to 8 in. on light soils. *Distance apart*, 2 to 6 in. *Lift* *N. bulbocodium* in July & replant in Oct.; other kinds every three or four years in July. Do not remove foliage until quite dead. **CULTURE IN TURF:** Make holes 2 to 3 in. wide, 6 in. deep. *Place* one bulb in each & cover with soil & turf. *Plant*, July to Oct. Grass must not be cut until leaves turn yellow. *Top-dress* annually with decayed cow manure in July or Aug. **INDOOR CULTURE:** *Compost*, two parts fibrous loam, one part well decayed manure or leaf-mould, one part sand. *Pot*, Aug. to Nov., placing 3 large, 6 medium sized, or 12 small bulbs in a 6-in. pot. *Depth for planting:* Allow apex to just appear above surface of soil. *Position*, under cinder ashes outdoors or in frame until growth begins, then remove to greenhouse or window. *Water* only when growth commences; moderately afterwards. *Apply* weak stimulants when flowers appear. *Temp.* for forcing, 55° to 65°. *After flowering*, plant bulbs, except those of *N. bulbocodium* & *N. cyclamineus*, outdoors. *Keep* soil of the latter dry after flowering. **CULTURE OF CHINESE SACRED LILY:** *Half fill* a Japanese bowl with shingle or gravel, & add sufficient water to just cover this. *Place* bulb on the shingle & surround with pebbles. *Put* bowl in dark cupboard until growth begins, then remove to light. *Change* water once a week; use tepid water only. *Bulbs* usually flower 5 to 6 weeks after being placed in bowls; useless after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of sandy loam in cold frame in autn., transplanting seedlings following year 1 in. apart in bed of sandy soil in shady position outdoors; by offsets, removed from old bulbs in July or Aug., & replanted at once as advised for parent bulbs. Seedling bulbs flower when three to six years old.

Narcissus-flowered Wind-flower (*Anemone narcissiflora*)—see *Anemone*.

Narcissus of Japan (*Nerine sarniensis*)—see *Nerine*.

Narcissus-Oil-plant (*Narcissus odoratus*)—see *Narcissus*.

Narrow-fronded Chain-fern (*Woodwardia angustifolia*)—see *Woodwardia*.

Narrow-fronded Bladder-fern (*Cystopteris angustata*)—see *Cystopteris*.

Narrow-leaved Adam's-needle (*Yucca angustifolia*)—see *Yucca*.

Narrow-leaved Ash (*Fraxinus excelsior angustifolia*)—see *Fraxinus*.

Narrow-leaved Barberry (*Berberis stenophylla*)—see *Berberis*.

Narrow-leaved Christmas Rose (*Helleborus angustifolius*)—see *Helleborus*.

Narrow-leaved Daffedil (*Narcissus angustifolius*)—see *Narcissus*.

Narrow-leaved Evening Primrose (*Oenothera linearis*)—see *Oenothera*.

Narrow-leaved Feverfew (*Pyrethrum achillæfolium*)—see *Pyrethrum*.

Narrow-leaved Holly (*Ilex angustifolia*)—see *Ilex*.

Narrow-leaved Jasmine (*Jasminum angustifolium*)—see *Jasminum*.

Narrow-leaved Lung-wort (*Pulmonaria angustifolia*)—see *Pulmonaria*.

Narrow-leaved Queensland Lily (*Crinum angustifolium*)—see *Crinum*.

Narrow-leaved Sea-Lavender (*Statice angustifolia*)—see *Statice*.

Narrow-leaved Spindle-tree (*Euonymus angustifolius*)—see *Euonymus*.

Narrow-leaved Sun-rose (*Helianthemum angustifolium*)—see *Helianthemum*.

Narrow-leaved Whortle-berry (*Vaccinium angustifolium*)—see *Vaccinium*.

Narrow Prickly-toothed-fern (*Lastrea spinulosa*)—see *Lastrea*.

Nasturtium (Water Cress).—*Ord.* Cruciferae. Hardy perennial herb. Aquatic. *Nat.* Europe (Britain), Asia. *Species* cultivated, 1; varieties 2. *Flowers*, white; June. *Leaves*, green or brown; largely used for salads. **CULTURE IN BEDS IN WATER:** *Soil*, ordinary. *Position*, open. *Dimensions* of beds, 3 to 4 ft. wide; 3 to 6 in. deep; no limit as to length. *Depth* of soil $\frac{1}{4}$ to 3 in. *Depth* of water $1\frac{1}{2}$ in. when first planted; 3 in. when growing freely; 6 in. in winter. *Water* must flow through beds, not be stagnant. *Plant*, May and June for gathering in Aug. to Feb.; Sept. to Nov. for gathering Feb. to May. *Replant* beds twice annually. *Distance for planting*, 6 in. apart in rows, 2 ft. between rows. *Soil* must be removed each planting. *Gather* the tops once a week; cut, not break, them off. **CULTURE IN PANS:** *Soil*, ordinary. *Position*, tubs or tanks of water in open air or under glass. *Sow* seeds $\frac{1}{4}$ in. deep in Mar. or Sept., & partly immerse pan in water; wholly when seedlings appear. *Insert* cuttings 2 to 3 in. apart in spring or autumn, partly immerse at first, wholly after. **CULTURE IN TRENCHES:** *Soil*, ordinary. *Position*, sunny. *Dig* trench 2 ft. wide, 1 ft. deep. *Put* 6 in. decayed manure in & 3 in. of soil on this. *Sow* seeds thinly $\frac{1}{4}$ in. deep in Ap. & Aug. *Keep* well watered. *Cress* sown in Ap. gather June to Sept.; in Aug., Nov. to May. *Propagate* for beds by seeds sown on a shady border in Ap., & kept moist; by division of the plants in May or Aug.

Nasturtium.—A term commonly but erroneously applied to *Tropaeolum majus*.

Natal Lily (*Imantophyllum miniatum*)—see *Imantophyllum*.

Narthecium (Common Bog Asphodel, American Bog Asphodel, Lancashire Asphodel, Yellow Grass, Maiden-hair).—*Ord.* Liliaceae. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. Asia & America. *Int.* (foreign species) 1811. *Ht.* 6 to 12 in. *Species* cultivated, 1; variety 1. *Flowers*, yellow; June to July. *Soil*, ordinary. *Position*, moist beds, borders or margins of ponds. *Soil*, ordinary, or boggy peat. *Plant*, Oct. or Mar. *Propagate* by seeds sown in Mar. or Ap. where plants are required to grow; division of roots in Oct. or Mar.

Native Holly of Australia (*Lomatia ilicifolia*)—see *Lomatia*.

Native Ivy of Australia (*Muhlenbeckia adpressa*)—see *Muhlenbeckia*.

Navel-wort (*Cotyledon umbilicus*)—see *Cotyledon*.

Neapolitan Cyclamen (*Cyclamen neapolitanum*)—see *Cyclamen*.

Neapolitan Daphne (*Daphne collina*)—see *Daphne*.

Neapolitan Maple (*Acer neapolitanum*)—see *Acer*.

Neapolitan Violet (*Viola odorata pallida plena*)—see *Viola*.

Necklace Poplar (*Populus monilifera*)—see *Populus*.

Nectarine-tree (*Persica vulgaris lavis*)—see *Persica*.

Neem-tree (*Melia azadiracht*)—see *Melia*.

Negro's Slippers (*Euphorbia myrtifolia*)—see *Euphorbia*.

Negundo (Box Elder).—*Ord.* Sapindaceae. Hardy deciduous trees. Orn. foliage. *Nat.* N. America, Japan. *Int.* 1688. *Ht.* 5 to 40 ft. *Species* cultivated, 3; varieties several. *Leaves*, twice or three times divided, green or variegated. *Soil*, well drained sandy loam. *Position*, open shrubberies or singly on lawns or pleasure grounds. *Plant*, Oct. to Mar. *Prune* into shape, Feb. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sheltered position outdoors in Oct.; grafting on common species in Mar.; budding in Aug.; layering in Oct.

Neilgherry Lily (*Lilium neilgherrense*)—see *Lilium*.

Neilgherry Rhododendron (*Rhododendron nilagericum*)—see *Rhododendron*.

Neillia (Nine Bark).—*Ord.* Rosaceae. Hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1690. *Ht.* 3 to 5 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; June. *Leaves*, lobed, green

& golden yellow. *Soil*, ordinary. *Position*, open sunny shrubberies or banks. *Plant*, Oct. to Mar. *Prune* flowering species moderately after blooming; variegated variety in Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in sheltered position outdoors, autn. or spring; cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass any time.

Neja.—*Ord.* Compositæ. Half-hardy herbaceous perennials. *Nat.* Uruguay. *Int.* 1828. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow, daisy like; May to Oct. *Outdoor culture*: *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Ap. *Lift* in Oct. & place in pots in cold frame during winter. *Pot culture*: *Compost*, two parts sandy loam, one part leaf-mould, half part sand. *Pot*, Mar. or Ap. *Position*, sunny cold frame or cold greenhouse when in flower. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in cold frame, Mar. to Ap.; division of roots, Oct. or Mar.

Nelson's Phlox (*Phlox Nelsoni*)—see *Phlox*.

Nelumbium (Sacred Bean, Egyptian Bean, Chinese Water Lily, Yellow Nelumbo, Yellow Water Bean, Water Chinquapin).—*Ord.* Nymphaeacæ. Greenhouse aquatic rhizomatous-rooted perennials. *Orn.* foliage & flowering. *Nat.* Asia, Egypt, W. Indies, Southern United States. *Int.* 1787. *Species* cultivated, 2. *Flowers*, yellow, white, rose, fragrant; July to Sept. *Leaves*, shield-shaped, 1 to 2 ft. in diameter, bluish green. *Compost*, two parts loam, one part well decayed manure. *Position*, in tanks or tubs of water heated to a temp. of 60° to 65°. *Plant* rhizomes 3 to 4 in. below surface of water in Feb. or Mar. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. *Draw* off water from tank in Oct., & keep rhizomes dry till Feb. *N. speciosum* may be grown in tank in sunny position outdoors, June to Sept. *Propagate* by seeds sown in sandy soil, 2 to 3 in. below surface of water, heated to temp. of 60° to 70° any time of year; division of rhizomes in Feb.

Nelumbo (*Nelumbium speciosum*)—see *Nelumbium*.

Nemastylis.—*Ord.* Iridacæ. Half-hardy flowering bulbs. *Deciduous Nat.* Mexico, Southern United States. *Int.* 1875. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, blue, yellow, black; May to June. *OUTDOOR CULTURE*: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow manure. *POT CULTURE*: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½-in. in diameter, well drained. *Place* five bulbs 3 in. deep, in each pot in Nov., & cover with cocoanut fibre refuse in cold frame or under cool greenhouse stage until growth commences. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Nemesia.—*Ord.* Scrophulariaceæ. Half-hardy annuals. *Nat.* S. Africa. *Int.* 1774. *Ht.* 6 to 24 in. *Species* cultivated, 4; varieties many. *Flowers*, white, lilac, yellow, blue, scarlet, magenta, mauve, fragrant; June to Oct. *Soil*, ordinary. *Position*, sunny beds or rockeries. *Propagate* by seeds sown in Mar. $\frac{1}{2}$ in. deep in well drained pots or pans, filled with light fibrous loam & little wood ashes. *Place* in temp. 55° to 65°, transplanting seedlings when they have formed three leaves 1 in. apart in well drained pots, placing in temp. of 55°, & planting into flowering position outdoors in June; also seeds sown in May $\frac{1}{2}$ in. deep in patches outdoors where plants are required to flower, afterwards thinning seedlings to 2 or 3 in. apart. *N. strumosa Suttoni* best kind for general cultivation.

Nemophila (Californian Blue-bell, Love-grove).—*Ord.* Hydrophyllacæ. Hardy trailing annuals. *Nat.* N. America. *Int.* 1822. *Ht.* 4 to 18 in. *Species* cultivated, about 5; varieties several. *Flowers*, blue, white, purple; May to Nov. *OUTDOOR CULTURE*: *Soil*, ordinary. *Position*, in masses or in lines as edgings to sunny beds or borders. *Sow seeds* $\frac{1}{2}$ in. deep. in

Mar. or Ap for flowering in sum. ; in Aug. or Sept. for flowering in spring. *Thin seedlings* to 1 or 2 in. apart when $\frac{1}{2}$ in. high. **POT CULTURE:** *Compost*, two parts good ordinary soil, one part leaf-mould or well decayed manure. *Size* of pots $4\frac{1}{2}$ in. diameter. *Place* 1 in. of drainage in pots, cover with moss & fill up to within $\frac{1}{4}$ in. of rim with above compost pressed firmly. *Sow* seeds thinly, slightly covering with fine mould, & place pots in cool shady frame or window. *Water* moderately at first; freely when seedlings appear. *Apply* weak stimulants once or twice weekly when plants begin to flower. *Position* when in flower, cold sunny greenhouse, window or frame.

Nepaul Ash (*Fraxinus floribunda*)—see *Fraxinus*.

Nepaul Bird Cherry (*Cerasus nepalensis*)—see *Cerasus*.

Nepaul Bladder Senna (*Colutea nepalensis*)—see *Colutea*.

Nepaul Poppy (*Meconopsis nepalensis*)—see *Meconopsis*.

Nepaul Saxifrage (*Saxifraga nepalensis*)—see *Saxifraga*.

Nepaul Trumpet-flower (*Beaumontia grandiflora*)—see *Beaumontia*.

Nepenthes (Pitcher-plant).—*Ord.* Nepenthaceæ. Stove evergreen sub-shrubby perennials. *Orn. foliage.* *Nat.* Tropical Asia, Madagascar, Malayan Archipelago. *Int.* 1789. *Ht.* 1 to 2 ft. *Species* cultivated, about 20; hybrids many. *Flowers*, greenish, dioecious, insignificant. *Leaves*, oblong or lance-shaped, terminating in a pitcher-like appendage; green variously mottled with red, brown & crimson. *Compost*, two parts good brown fibrous peat, one part sphagnum moss. *Position* in baskets suspended from roof in shady part of stove. *Plant*, or re-basket, Feb. or Mar. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 65° to 75°. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily all the year round. *Moist atmosphere* very essential. *Shade* from sun. *Propagate* by seeds sown on surface of mixture of fibrous peat & sphagnum moss in well drained pan covered with bell-glass & placed in a moist frame heated to temp. of 80° to 85°; cuttings of one year old shoots inserted singly in small pots plunged in bottom heat of 85° any time.

Nepeta (Cat-mint).—*Ord.* Labiatae. Hardy herbaceous trailing perennials. *Nat.* Britain, Caucasus. *Species* cultivated, 2; variety 1, variegated. *Flowers*, blue; Ap. to June. *Leaves*, heart-shaped, dark green or variegated with white. *Soil*, ordinary. *Position*, sunny beds, borders or rockeries. *Plant*, Oct. or Mar. *Propagate* by seeds sown $\frac{1}{4}$ in. deep where plants are required to grow, Mar. to May; division of roots, Oct. to Mar.

Nephrodium.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* S. Africa, India, Sandwich Islands, Australasia. *Int.* 1820. *Ht.* 12 in. to 3 ft. *Species* cultivated, about 12; varieties several. *Fronds*, feather-shaped, green, plain or crested. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots, borders or rockeries, in shade. *Pot* or plant, Feb., Mar. or Ap. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 65°. *Propagate* by spores sown on surface of pans of sandy peat, placed under bell-glass in temp. 75° to 85°, any time.

Nephrolepis (Ladder Fern).—*Ord.* Filices. Stove evergreen ferns. *Nat.* T. opica, Himalayas, Madagascar. *Int.* 1793. *Ht.* 1 to 3 ft. *Species* cultivated, about 8; varieties several. *Fronds*, linear, narrow, once divided, plain or crested. *Compost*, equal parts loam, leaf-mould & sand, two parts lumpy peat. *Position*, in baskets suspended from roof, or in well drained pots or beds in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass, & placed in temp. 75° to 85°, any time; division of plants, Feb., Mar. or Ap.; pegging down creeping stems bearing young plants & removing when rooted.

Nerine (Guernsey Lily, Scarlet Guernsey Lily).—*Ord.* Amaryllidaceæ

Greenhouse & hardy bulbous plants. Deciduous. *Nat. S. Africa. Int.* 1680. *Ht.* 8 to 15 in. *Species* cultivated, 17; varieties several. *Flowers*, scarlet, rose, crimson, pink, white; May to Nov. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part well decayed cow manure or leaf-mould, one part coarse sand. *Pot*, Aug. to Nov., placing one bulb half its depth in a 4½-in. pot, or three in a 6-in. pot; good drainage essential. *Position*, light cool greenhouse, Sept. to May; cold frame or sunny spot outdoors, May to Sept. *Water* moderately, Sept. to May or as soon as flower spikes show; keep quite dry, May to Sept. *Apply* stimulants occasionally during growth. *Top-dress* annually with equal parts sandy loam, decayed cow manure & sand in Aug. *Repotting* only necessary every 3 or 4 years. *Season of growth*, Sept. to May; season of rest, May to Sept. **CULTURE OF HARDY SPECIES (*N. sarniensis*):** *Soil*, light sandy, enriched with decayed cow manure. *Position*, sunny well drained borders at base of S. wall. *Plant*, Aug. to Nov., 2 to 3 in. deep. *Protect*, Nov. to Ap., with covering of dry litter. *Top-dress* annually in Aug. with leaf-mould or decayed cow manure. *Lift & replant* every four or five years. *Propagate* by offsets removed when repotting & treated as old bulbs.

Nerium (Oleander, Rose-Bay).—*Ord.* Apocynaceæ. Greenhouse ever green flowering shrubs. *Nat. Mediterranean district. Int.* 1596. *Ht.* 6 to 12 ft. *Species* cultivated, 1; varieties 15. *Flowers*, red, white, pink, crimson, rose, purple, yellow, single & double, fragrant; June to Oct. *Compost*, two parts sandy loam, one part well decomposed manure, one part leaf-mould & one part sand. *Position*, pots, tubs or well drained beds in light sunny greenhouse or window; place pot or tub plants outdoors, June to Sept. *Pot* or plant, Feb. or Mar. *Prune* immediately after flowering, or in Oct., shortening shoots of previous year's growth to within 3 or 4 in. of their base. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Apply* stimulants once or twice weekly, May to Sept. *Remove* young shoots that issue from base of flower trusses as soon as they appear. *No shade* required. *Syringe* twice daily, Mar. to June. *Propagate* by cuttings of firm young shoots, 3 to 6 in. long, inserted in bottles of rain water, suspended in sunny window or greenhouse in sum.; or singly in 2-in. pots in a compost of equal parts peat, loam, leaf-mould & sand, placed under bell-glass in temp. 60° to 70°, spring or sum.

Nertera (Fruiting Duckweed, Coral-berried Duckweed, Bead Plant).—*Ord.* Rubiaceæ. Greenhouse & half-hardy creeping perennial herb. *Orn. fruiting Nat. Australasia. Int.* 1868. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, greenish; all the year round. *Berries* round, bright orange red or crimson. **INDOOR CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, small well drained pots or pans in shady part of greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Oct., 50° to 60°; Oct. to Mar., 40° to 50°. **OUTDOOR CULTURE:** *Soil*, ordinary light rich. *Position*, moist sheltered ledges of shady rockery. *Plant*, Mar. o Ap. *Water* freely in dry weather. *Protect* in severe weather with bell or hand-glass. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in temp. 55° to 65° Mar. or Ap.; division of plants in Mar. or Ap.

Nerve-root (*Cypripedium pubescens*).—see *Cypripedium*.

Netted Camellia (*Camellia reticulata*).—see *Camellia*.

Netted Chain-Fern (*Woodwardia angustifolia*).—see *Woodwardia*.

Netted-flowered Toad-flax (*Linaria reticulata*).—see *Linaria*.

Neottopteris (Bird's-nest Fern).—*Ord.* Filices. Stove evergreen ferns. *Nat. E. Indies, Australia. Int.* 1820. *Ht.* 3 ft. *Species* cultivated, 2. *Fronds*, large, broad, undivided, green. *Compost*, two parts peat, one each loam, leaf-mould & sand. *Pot*, Mar. *Water* freely in sum.; moderately in winter. *Syringe* roots at base of fronds several times daily, Ap. to Sept.; occasionally, Sept. to Ap. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept.,

70° to 80°. *Propagate* by spores sown on surface of pans of sandy peat under bell-glass in temp. 75° to 85° at any time.

Netted-leaved Willow (*Salix reticulata*)—see *Salix*.

Netted-veined Bamboo (*Bambusa reticulata*)—see *Bambusa*.

Nettle Geranium (*Coleus fruticosus*)—see *Coleus*.

Nettle-leaved Bell-flower (*Campanula Trachelium*)—see *Campanula*.

Nevada Lily (*Lilium Washingtonianum*)—see *Lilium*.

New Caledonia Pine-tree (*Araucaria Cooki* & *A. Rulei*)—see *Araucaria*.

New England Star-wort (*Aster Nova-Angliae*)—see *Aster*.

New Jersey Tea-plant (*Ceanothus americanus*)—see *Ceanothus*.

Newman's Cone-flower (*Rudbeckia Neu-mani*)—see *Rudbeckia*.

New South Wales Star-wort (*Olearia dentata*)—see *Olearia*.

New York Star-wort (*Aster Novi-Belgi*)—see *Aster*.

New Zealand Arbor-vitæ (*Libocedrus Doniana*)—see *Libocedrus*.

New Zealand Blue-bell (*Wahlenbergia saxicola*)—see *Wahlenbergia*.

New Zealand Box-tree (*Veronica buxifolia*)—see *Veronica*.

New Zealand Clematis (*Clematis indivisa lobata*)—see *Clematis*.

New Zealand Crow-foot (*Ranunculus Lyalli*)—see *Ranunculus*.

New Zealand Daisy Bush (*Olearia Haastii*)—see *Olearia*.

New Zealand Dragon-plant (*Dracæna australis*)—see *Dracæna*.

New Zealand Flax (*Phormium tenax* & *P. Colensoi*)—see *Phormium*.

New Zealand Fuchsia (*Fuchsia Colensoi*, *F. excorticata* & *F. procumbens*)—see *Fuchsia*.

New Zealand Glory-Pea (*Clanthus puniceus*)—see *Clanthus*.

New Zealand Hanging-tree Spleen-wort (*Asplenium flaccidum*)—see *Asplenium*.

New Zealand Hare-bell (*Wahlenbergia saxicola*)—see *Wahlenbergia*.

New Zealand Holly (*Osmanthus ilicifolius*)—see *Osmanthus*.

New Zealand Ivy (*Panax Colensoi*)—see *Panax*.

New Zealand Laburnum-tree (*Edwardsia grandiflora*)—see *Edwardsia*.

New Zealand Palm (*Areca sapida*)—see *Areca*.

New Zealand Pine-tree (*Dacrydium cupressinum*)—see *Dacrydium*.

New Zealand Plume-grass (*Arundo conspicua*)—see *Arundo*.

New Zealand Reed (*Arundo conspicua*)—see *Arundo*.

New Zealand Spinach (*Tetragonia expansa*)—see *Tetragonia*.

New Zealand Spruce (*Dacrydium cupressinum*)—see *Dacrydium*.

New Zealand Shore Spleen-wort (*Asplenium obtusatum*)—see *Asplenium*.

New Zealand Spleen-wort (*Asplenium bulbiferum*)—see *Asplenium*.

New Zealand Tree-fern (*Dicksonia antarctica*, *D. lanata*, & *D. squarrosa*)—see *Dicksonia*.

New Zealand Water-lily (*Ranunculus Lyalli*)—see *Ranunculus*.

Nicandra (Apple-of-Peru).—*Ord.* Solanaceæ. Hardy annual. *Nat. Peru. Int.* 1759. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, blue, white; July to Sept. *Soil*, ordinary. *Position*, sunny open borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots or boxes of light soil in temp. 55° to 65° in Mar., transplanting seedlings 3 ft. apart outdoors in May; or by sowing seed in sunny position outdoors in Ap., transplanting seedlings in June.

Nicobar Bread-fruit Tree (*Pandanus odoratissimus*)—see *Pandanus*.

Nicotiana (Tobacco Plant).—*Ord.* Solanaceæ. Greenhouse & half hardy annuals & perennials. Flowering & orn. foliage. *Nat. America, Aus.*

tralia, Buenos Ayres, Brazil, Chili, Persia, Columbia. *Int.* (common tobacco) 1570. *Ht.* 2 to 4 ft. *Species* cultivated, about 12; varieties several. *Flowers* white, yellow, rose; fragrant; June to Nov. *Leaves*, large, egg or lance-shaped green. **POT CULTURE OF *N. AFFINIS*:** *Compost*, two parts loam, one part leaf mould or decayed manure, & one part sand. *Position*, sunny or shady green house or window. *Water* freely when in full growth; moderately at other times. *Apply* stimulants once or twice a week when in flower. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. **OUTDOOR CULTURE OF *N. AFFINIS*:** *Soil*, ordinary. *Position*, sunny beds or borders. *Plant* in June in groups of three or six. *Protect* in winter with covering of cinder ashes, tan or decayed manure. Will only survive winter in well drained soils. Although really a perennial, is generally treated as an annual for in and outdoor culture. **CULTURE OF ANNUAL SPECIES (*N. acutiflora* & *N. tabacum*):** *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Gather* leaves of *N. tabacum* in Sept. for drying. *Water* freely in dry weather. **CULTURE OF PERENNIAL SPECIES (*N. suaveolens*, etc.):** *Compost*, two parts loam, one part leaf mould & sand. *Position*, well drained pots in sunny greenhouses all the year round, or sunny borders outdoors, June to Sept. *Pot*, Mar. *Plant*, outdoors, June. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants to pot plants once a week. *Repot* annually. *Lift* outdoor plants in Sept. *Propagate* *N. affinis* by seeds sown on the surface of fine light mould in a shallow box or pan in shade, in a temp. of 65° to 75°, in Mar. or Ap., also by cuttings of the roots inserted in sandy soil in temp. 55° to 65° in autn. or spring; annual species by seeds sown as above; perennial species by seeds as above, or by division of the roots in Mar.

Nidpath Castle Yew-tree (*Taxus baccata Nilpathensis*)—see *Taxus*.

Nierembergia (Tall Cup-flower, Trailing Cup-flower).—*Ord.* Solanaceæ. Hardy and half-hardy creeping perennial herbs. *Nat.* Buenos Ayres, Chili, La Plata. *Int.* 1-31. *Ht.* 6 to 12 in. *Species* cultivated, 2 hardy; 3 half-hardy. *Flowers*, blue, purple, lilac, yellow, white, rose; May to Sept. **CULTURE OF HARDY SPECIES (*N. frutescens* & *N. nivalaris*):** *Soil*, equal parts sandy loam & leaf-mould. *Position*, sunny or moist border or ledges of rockery. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Top-dress* annually in Mar. with decayed cow manure. *Protect* in very severe weather with covering of litter. **CULTURE OF HALF-HARDY SPECIES:** *Compost*, two parts sandy loam, one part well decomposed cow manure & one part sand. *Position*, well drained pots or pans in shady part of greenhouse or cold frame all the year round, or outdoors in shady spot, May to Oct. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Propagate* by seeds sown in light sandy soil in temp. 55° to 65°, Nov. to Ap.; cuttings inserted in sandy soil under bell-glass in shady part of cool greenhouse in Aug., transferring when well rooted singly into 2-in. pots, & placing in light airy position in greenhouse or window.

Nigella (Fennel-flower, Devil-in-a-bush, Jack-in-prison, Love-in-a-mist, Lady in the bower, Love-in-a-puzzle, St. Katherine's Flower, Spanish Fennel-flower).—*Ord.* Ranunculaceæ. Hardy annuals. *Nat.* S. Europe, Asia Minor, N. Africa. *Int.* 1518. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, white, blue, yellow, brown, red; June to Oct.; surrounded by a green mossy involucre. *Foliage*, green, graceful, feathery. *Soil*, ordinary. *Position*, sunny open beds or borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in lines, bands or masses in Mar. or Ap.; thin seedlings out 6 in. apart each way, May or June.

Night-flowering Catch-fly (*Silene noctiflora*)—see *Silene*.

Night-scented Stock (*Hesperis tristis* & *Mathiola odoratissima*)—see *Hesperis* & *Mathiola*.

Nikau Palm (*Areca sapida*)—see *Areca*.

Nikau Palm-tree (*Kentia sapida*)—see *Kentia*.

Nile Bull-rush (*Papyrus antiquorum*)—see *Papyrus*.

- Nimble Will** (*Muhlenbergia diffusa*)—see Muhlenbergia.
- Nine Bark** (*Neillia opulifolia*)—see Neillia.
- Nine-leaved Wood-Sorrel** (*Oxalis enneaphylla*)—see Oxalis.
- Nipholobolus** (Climbing Polypody).—*Ord.* Filices. Stove & greenhouse ferns. *Nat.* E. Indies, China, Australia. *Int.* date unknown. *Ht.* 3 to 12 in. *Species* cultivated, about 6. *Fronds*, strap-shaped, leathery, greyish green. *Compost*, two parts rough fibrous peat, one part loam, leaf-mould & sand. *Position*, 'crooping species' in baskets; erect kinds in pots, well drained, in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately in winter; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75° for stove species; Sept. to Mar., 50° to 60°; Mar. to Sept., 55° to 65° for greenhouse species. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85° any time; by division of plants at potting time.
- Niple Cactus** (*Mammillaria bicolor*)—see Mammillaria.
- Noah's Ark** (*Cypripedium pubescens*)—see Cypripedium.
- Noble Bell-flower** (*Campanula grandiflora*)—see Campanula.
- Noble Silver Fir** (*Picea nobilis*)—see Picea.
- Noble Stone-crop** (*Sedum spectabile*)—see Sedum.
- Noble Yarrow** (*Achillea filipendula*)—see Achillea.
- Noisette Rose** (*Rosa indica Noisettiana*)—see Rosa.
- Nolana** (Chilian Bell-flower).—*Ord.* Convolvulaceæ. Hardy annuals. *Nat.* Peru, Chili. *Int.* 1761. *Ht.* 6 in. *Species* cultivated, 5. *Flowers*, white, yellow, blue; May to Oct. *Soil*, ordinary. *Position*, open sunny beds, borders or rockeries. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in patches in Mar. or Ap. where plants are required to grow, thinning seedlings to 2 or 3 in. apart in May or June.
- None-so-Pretty** (*Saxifraga umbrosa*)—see Saxifraga.
- None-such** (*Lychnis chalconica*)—see Lychnis.
- Noon-Flower** (*Tragopogon pratensis*)—see Tragopogon.
- Nootka Fir** (*Abies Douglasi*)—see Abies.
- Nootka Sound Arbor-vitæ** (*Thuja plicata*)—see Thuja.
- Nootka Sound Cypress** (*Cupressus nutkensis*)—see Cupressus.
- Norfolk Island Glory-Pea** (*Clianthus carneus*)—see Clianthus.
- Norfolk Island Palm** (*Kentia Baueri*)—see Kentia.
- Norfolk Island Pine-tree** (*Araucaria excelsa*)—see Araucaria.
- Norfolk Island Tree-fern** (*Alsophila excelsa*)—see Alsophila.
- Normandy Cress** (*Barbarea præcox*)—see Barbarea.
- North American Barberry** (*Berberis canadensis*)—see Berberis.
- North American Crab** (*Pyrus coronaria*)—see Pyrus.
- Northern Choke Cherry** (*Cerasus borealis*)—see Cerasus.
- Northern Chrysanthemum** (*Chrysanthemum arcticum*)—see Chrysanthemum.
- Northern Fox Grape** (*Vitis Labrusca*)—see Vitis.
- Northern Rock-cress** (*Arabis petræa*)—see Arabia.
- Norway Maple** (*Acer platanoides*)—see Acer.
- Norway Pine-tree** (*Abies excelsa*)—see Abies.
- Norway Spruce** (*Abies excelsa*)—see Abies.
- Nosegay-tree** (*Plumieria rubra*)—see Plumieria.
- Notch-petalled Barberry** (*Berberis emarginata*)—see Berberis.
- Notched Fringe-flower** (*Schizanthus retusus*)—see Schizanthus.
- Nothochlæna** (Cloak Fern, Woolly Cloak Fern, Hardy Cloak Fern). *Ord.* Filices. Stove, greenhouse & hardy evergreen ferns. *Nat.* Australia, W. Indies, Mexico, Chili, S. Europe, Africa. *Int.* 1778. *Ht.* 3 to 18 in. *Species* cultivated, 5 stove; 10 greenhouse; 1 hardy. *Fronds*, once or thrice

divided, upper surface green, under covered with white powder or scales. **CULTURE OF STOVE AND GREENHOUSE SPECIES:** *Compost*, equal parts loam, leaf-mould, peat & sand, with little charcoal & sandstone broken small. *Position*, pots in shady part of house. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Feb.; freely other times. *Syringing*, not required. *Temp.*, stove species, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°; greenhouse species, Sept. to Mar., 45° to 50°; Mar. to Sept., 55° to 65°. **CULTURE OF HARDY SPECIES** (*N. Marantæ*): *Soil*, peaty. *Position*, moist sheltered nook of shady rockery. *Plant*, Ap. *Water* freely in dry weather. *Propagate* by spores sown on surface of fine sandy peat in pans under bell-glass in temp. 70° to 85° any time; division at potting time.

Notched-leaved Winter-green (*Pyrola secunda*)—see *Pyrola*.

Nottingham Catch-fly (*Silene nutans*)—see *Silene*.

Nuphar (Yellow Water-Lily, Bobbins, Brandy-bottle, Can-Dock, Clote, Edible fruited Water-Lily, Three-coloured Water-Lily, Striped-flowered Water-Lily, American Yellow Pond Lily, Small Yellow Water-Lily).—*Ord.* Nymphaeaceæ, Hardy aquatic perennial herbs. *Nat.* Europe (Britain), Asia, N. America. *Int.* (foreign species) 1772. *Species* cultivated, 3; varieties several. *Flowers*, yellow; June to Sept. *Soil*, two parts strong rich loam, one part well decayed manure. *Position*, sunny shallow streams, ponds or lakes. *Depth of water*, 6 to 12 in. *Plant*, Mar. or Oct. *Methods of planting*: (1) Fill a shallow wicker basket with compost, place the plant in it & a few stones on the surface, then lower into the water. (2) Place some compost round the roots, then add a few stones & surround with canvas or matting & lower into the water. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in rich soil in a shallow basket immersed in water, Oct. to Ap.; division of the plant in Mar.

Nut-bush (*Corylus avellana*)—see *Corylus*.

Nutmeg Myrtle (*Myrtus communis lusitanica acuta*)—see *Myrtus*.

Nut Pine-tree (*Pinus edulis*)—see *Pinus*.

Nuttallia (Oso-berry-tree).—*Ord.* Rosaceæ. Hardy deciduous evergreen shrub. *Nat.* California. *Int.* 1848. *Ht.* 4 to 5 ft. *Species* cultivated, 1. *Flowers*, white; Mar. & Ap., succeeded by purplish plum-like fruit. *Soil*, ordinary. *Position*, shady or sunny shrubberies. *Plant*, Oct. to Feb. *Prune* when necessary immediately after flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in shady position outdoors in spring or autumn; suckers removed from parent plant & planted Oct. or Nov.

Nycterinia.—*Ord.* Scrophulariaceæ. Half-hardy annuals. *Nat.* S. Africa. *Int.* 1824. *Ht.* 3 to 12 in. *Species* cultivated, 2. *Flowers*, white, orange; fragrant at night; May to Sept. *Soil*, rich sandy loam. *Position*, warm sunny borders or rockeries. *Propagate* by seeds sown on surface of fine light mould & slightly covered with silver sand & placed in temp. 55° to 65° in Mar., transplanting seedlings outdoors in June, or sow seeds $\frac{1}{4}$ in. deep outdoors in May where plants are required to flower. *Water* freely in dry weather. *Mulch* with layer of cocoanut-fibre refuse in June.

Nymphæa (White Water-Lily, Egyptian Lotus, Hardy Red Water-Lily, Australian Water-Lily, Zanzibar Water-Lily, Tuberous-rooted Water-Lily, Amazon Water-Lily, Florida Water-Lily, American Sweet-scented Water-Lily, Chinese Water-Lily, Pigmy Water-Lily).—*Ord.* Nymphaeaceæ. Stove & hardy aquatic tuberous-rooted perennials. Evergreen & deciduous. *Nat.* Europe (Britain), Jamaica, United States, Cape of Good Hope, Egypt, W. Africa, Siberia, Central Asia, Australia. *Int.* (foreign species) 1786. *Species* cultivated, stove, 11; hardy, 6; varieties several. *Flowers*, white, yellow, rose, blue, red; mostly fragrant; June to Oct. **CULTURE OF STOVE SPECIES:** two parts rich turfy loam & one part well decayed manure. *Position*, large pots or tubs immersed 8 to 12 in. below surface of water in tanks fully exposed to light. *Plant*, Feb. to Ap. *Temp. of atmosphere*, 65° to 75°, Mar. to Sept.; 50° to 60°, Sept. to Mar. *Temp. of water*, 65° to 75°, Mar. to Sept.; 55° to

65°, Sept. to Mar. *Repot* annually in Feb. or Mar. **CULTURE OF HARDY SPECIES:** *Compost*, two parts strong rich loam, one part well decayed manure. *Position*, open sunny ponds or lakes. *Depth* of water, 2 to 3 ft. *Plant*, Mar. to Oct. *Methods of planting:* (1) Place plant in small wicker basket containing above compost, & lower to the bottom of pond or lake. (2) Inclose roots with soil & large stone in piece of canvas or matting, tie securely & immerse as above. (3) Place large hillock or mound of compost at bottom of pond when dry & plant tubers in centre, afterwards submerging with water. *Propagate* stove species by seeds sown $\frac{1}{2}$ in. deep in pots of rich soil immersed in water heated to a temp. of 65° to 75°, Mar. or Ap. Hardy species by seeds sown $\frac{1}{2}$ in. deep in rich soil in shallow basket & immersed in ponds or lakes in spring; division of tubers or rhizomes, Mar. or Ap.

Oak (*Quercus robur*)—see *Quercus*.

Oak Fern (*Polypodium dryopteris*)—see *Polypodium*.

Oak Manna-tree (*Quercus vallonea* & *Q. persea*)—see *Quercus*.

Oblique-leaved Adam's Needle (*Yucca obliqua*)—see *Yucca*.

Oblique-leaved Beech (*Fagus obliqua*)—see *Fagus*.

Oblong-leaved Dog-wood (*Cornus oblonga*)—see *Cornus*.

Ochsa.—*Ord.* Orchidaceæ. Stove evergreen flowering shrubs. *Nat.* Sierra Leone, Cape of Good Hope. *Int.* 1816. *Ht.* 3 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow; Mar. to July: succeeded by black & crimson globular fruits. *Compost*, equal parts fibrous loam, peat & sand. *Position*, well drained pots in sunny light part of stove. *Fol.*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Feb. to Oct. *Temp.*, Mar. to Sept., 70° to 75°; Sept. to Mar., 60° to 65°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in temp. 65° to 75° sun.

Ocimum (Sweet Basil, Common Basil, Bush Basil).—*Ord.* Labiatæ. Half-hardy annual aromatic herbs. *Nat.* India, Asia, Africa, Chili. *Int.* 1548. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, white; July to Sept. *Leaves*, egg-shaped, aromatic; used for flavouring stews, soups & salads. *Soil*, ordinary light rich. *Position*, sunny well drained border. *Plant*, 6 in. apart in rows 9 to 12 in. asunder in May. *Shade* from sun first few days after planting. *Water* freely in dry weather. *Gather* leaves & tops when coming into flower, dry & reduce to powder for winter use. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in shallow box in temp. 55° to 65° in Mar., transplanting seedlings when three leaves are formed an inch apart in similar soil, & gradually harden off in cold frame.

Odontoglossum (Almond-scented Orchid, Violet-scented Orchid).—*Ord.* Orchidaceæ. Greenhouse epiphytal & terrestrial orchids. Evergreen. *Nat.* Tropical America. *Int.* 1835. *Ht.* 6 to 12 in. *Species* cultivated, about 60; hybrids & varieties many. *Flowers*, various shades of white, purple, brown, rose, yellow, lilac, red; almond, violet, lemon & hawthorn-scented; all the year round. *Flower* spikes produced from base of pseudobulbs. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, teak-wood baskets or pans suspended from roof, blocks of wood, well drained pots; partial shade in sum.; exposed to full light at other times. *Pot.*, Feb., Mar. or Ap. Fill pots or pans two thirds of their depth with potsherds & charcoal. Place layer of moss on drainage, & fill remainder of space with compost to 1 in. above rim. Secure plant on this by means of fine copper wire, & top-dress with layer of sphagnum moss. *Blocks:* Place roots next wood, cover with layer of fibry peat & sphagnum moss, & secure firmly with copper wire. *Water* daily, Ap. to Sept., twice a week Sept. to Nov. & Feb. to Ap.; keep almost dry during remainder of year. *Syringe* lightly daily in sum. Keep atmosphere uniformly moist in sum. by damping stages, floor, etc., several times daily. *Ventilate* freely in sum.; moderately other times. *Temp.*, May to Sept., 55° to 65°; Sept. to

Feb., 45° to 55°; **Feb. to May**, 50° to 60°. *Growing period*, Mar. to Nov.; *resting period*, Dec. to Feb. *Propagate* by division of the pseudo-bulbs at potting time.

Ænothera (Evening Primrose, Sun-drops, Tree Primrose, Large Rambion).—*Ord.* Onagraceæ. Hardy annuals, biennials, herbaceous & shrubby perennials. *Nat.* Chili, California, Texas, N. America, United States, Mexico, Patagonia. *Int.* 1629. *Ht.* 6 in. to 4 ft. *Species* cultivated, 20 perennials, 2 biennials, 7 annuals; varieties many. *Flowers*, yellow, pink, purple; May to Sept. **CULTURE OF ANNUAL SPECIES:** *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{4}$ in. deep in patches or masses in Ap. where plants are required to flower. *Thin* seedlings 4 to 6 in apart in June. **CULTURE OF BIENNIAL SPECIES:** *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{4}$ in. deep in shady position outdoors in Ap., transplanting seedlings when 1 in. high, 3 in. apart each way, in sunny border, again transplanting into flowering position, following Sept. or Mar. **CULTURE OF PERENNIAL SPECIES:** *Soil*, light sandy loam. *Position*, sunny well drained borders, beds or rockeries. *Plant*, Oct., Mar. or Ap. *Water* freely in dry weather. *Mulch* annually with decayed cow manure. *Lift & replant* every 3 or 4 years. *Prune* away straggling shoots of shrubby species after flowering. *Propagate* by seeds sown in light soil in shallow box or well drained pans in cold frame or under hand-light in Mar. or Ap., transplanting outdoors end of May or June; cuttings of young shoots inserted in sandy soil under hand-light in shade in spring or sum.; suckers removed with roots attached, spring or autn.; division of roots, Mar. or Ap.

Oil Nut (*Ricinus communis*)—see *Ricinus*.

Old Garden Chrysanthemum (*Chrysanthemum coronarium*)—see *Chrysanthemum*.

Old Man (*Artemisia abrotanum*)—see *Artemisia*.

Old Man Cactus (*Pilocereus sensilis*)—see *Pilocereus*.

Old Man's Beard (*Clematis vitalba*)—see *Clematis*.

Olea (Olive, Oleaster).—*Ord.* Oleaceæ. Half-hardy evergreen flowering shrub. *Nat.* S. Europe. *Int.* 1570. *Ht.* 6 to 10 ft. *Species* cultivated, 1; variety 1. *Flowers*, white, yellowish; fragrant; June to Sept. *Soil*, sandy loam. *Position*, sheltered sunny borders or against S. or W. walls, S. of England only. *Plant*, Sept., Oct. or Ap. *Prune* when necessary, Ap. *Protect* in very severe weather with litter or mats. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf mould & sand. *Position*, cool greenhouse, Sept. to May; outdoors, June to Sept. *Temp.*, Sept. to May, 40° to 50°. *Water* moderately in winter; freely in sum. *Syringe* daily, Ap. to Sept. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy peat in greenhouse in spring or autn.; cuttings inserted in sandy soil under bell-glass in shade in greenhouse in sum.

Oleander (*Nerium oleander*)—see *Nerium*.

Oleander Fern (*Oleandra nerifformis*)—see *Oleandra*.

Oleandra (Oleander Fern).—*Ord.* Filices. Stove evergreen ferns. Stems rhizomatous & scandent. *Nat.* Ceylon, W. India, N. India, Mascaren Islands. *Int.* date unknown. *Ht.* 1 ft. *Species* cultivated, 5. *Fronds*, strap-shaped, green. *Compost*, two parts peat & one of loam, leaf-mould & sand. *Position*, hanging baskets, or against pillars & walls covered with layer of peaty soil secured by wire netting. *Plant*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* plants on pillars & walls daily, Mar. to Oct. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by spores sown on surface of fine sandy peat under bell-glass in temp. 75° to 85°, any time; division of creeping rhizomes at potting time.

Olearia (New South Wales Starwort, New Zealand Daisy Bush, Victorian Snow Bush).—*Ord.* Compositæ. Hardy evergreen flowering shrubs. *Nat.* Australia, New Zealand. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species*

cultivated, 4. *Flowers*, rose, white; *Mar. & Ap.*, Aug. & Sept. **OUTDOOR CULTURE**: *Soil*, sandy loam. *Position*, sunny borders or rockeries for *O. Haastii*, *S. or W. walls* for *O. dentata*, *O. Gunniana* & *O. Forsteri*. *Plant*, Sept. to Nov. or *Ap.* *Protect* those grown against walls during very severe weather by covering of mats or straw. *Pruning* not required, except to remove dead or unhealthy shoots in *Ap.* Not adapted for outdoor culture in N. of England. **POT CULTURE**: *Compost*, two parts sandy loam, one part leaf-mould or peat, one part sand. *Position*, well drained pots or in beds with shoots trained up pillars or against walls in cold greenhouses or conservatories. *Pot or plant*, Sept. to *Ap.* *Water* freely, *Mar.* to *Sept.*; moderately afterwards. *Syringe* freely in sum., except when in bloom. *Place* pot plants in sunny position outdoors until they flower. *Plunge* pots to rim in cinder ashes. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy soil under bell-glass in cold shady frame or greenhouse in sum.

Oleaster (*Elæagnus angustifolia* & *Olea europæa*)—see *Elæagnus* & *Ole*

Olive-leaved Daphne (*Daphne oleoides*)—see *Daphne*.

Olive Oil-plant (*Olea europæa*)—see *Olea*.

Olive-tree (*Olea europæa*)—see *Olea*.

Olympian Mullein (*Verbascum olympicum*)—see *Verbascum*.

Oncidium (Butterfly Orchid, Flower of the Dead, Spread Eagle Orchid).—*Ord.* Orchidaceæ. *Stove & greenhouse epiphytal orchids*. *Nat.* Tropical America & W. Indies. *Int.* 1791. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 18). *Flowers*, various shades of yellow, brown, crimson, white & red; all the year round. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, pots, wood or earthenware baskets, rafts or blocks. *Pot*, Feb. or *Mar.* Fill pots or pans two thirds of their depth with potsherds. *Place* layer of moss on this, then fill remainder of space with compost to 1 in. above rim. Put plant on this, cover roots with compost & layer of moss, & secure firmly with copper wire. *Baskets*: Line interior with moss, then fill with compost & place plant on top, securing it firmly with copper wire. *Blocks*: Place roots next wood, cover with peat & sphagnum moss, & secure firmly with copper wire. *Water* plants on blocks twice daily in sum., once a day other times; those in pots & baskets once a day, *Ap.* to *Sept.*, twice a week, *Sept.* to *Nov.* & *Feb.* to *Ap.*, once a week afterwards. *Syringe* lightly daily in sum. *Moist* atmosphere highly essential. *Shade* from bright sunshine only. *Ventilate* freely in sum. *Temp.* for stove species, *Nov.* to *Ap.*, 60° to 70°; *Ap.* to *Nov.*, 70° to 85°; for greenhouse species, *May* to *Oct.*, 65° to 75°; *Oct.* to *May*, 55° to 65°. *Growing period*, *Mar.* to *Sept.*; *resting period*, *Oct.* to *Feb.* *Propagate* by division of pseudo-bulbs at potting time.

Omphalodes (Venus's Navel-wort, Rock Forget-me-not, Creeping Forget-me-not).—*Ord.* Boraginaceæ. *Hardy annual & perennial herbs*. *Nat.* S. Europe, Asia Minor. *Int.* 1633. *Ht.* 4 to 12 in. *Species* cultivated, 2 perennials; 1 annual. *Flowers*, white, blue; *Mar.* to *Aug.* **CULTURE OF ANNUAL SPECIES** (*O. linifolia*): *Soil*, ordinary. *Position*, partially shaded borders. *Sow* seeds in masses where required to grow in *Ap.* to flower in June, June to flower in *Sept.*, & *Sept.* to flower in spring. **CULTURE OF PERENNIAL SPECIES**: *Soil*, ordinary rich moist. *Position*, partially shaded well drained borders or rockeries, or in rhododendron beds. *Plant*, *Oct.*, *Nov.*, *Mar.* or *Ap.* *Water* copiously in dry weather. *Mulch* with decayed cow manure annually in spring. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in semi-shaded position in *Ap.*, transplanting seedlings when 1 in. high; division of roots in *Mar.* or *Ap.*

One-flowered Crow-foot (*Ranunculus uniflorus*)—see *Ranunculus*.

One-flowered Winter-green (*Pyrola uniflora*)—see *Pyrola*.

One-leaved Daffodil (*Narcissus monophyllus*)—see *Narcissus*.

Onion (*Allium cepa*).—*Soil*, light, deep, rich ordinary. *Position*, open, sunny. *Solid manures*: fowl dung, applied at the rate of 1 cwt. to a square rod in Feb.; pig dung at the rate of 2 cwt. to a square rod, applied in autn.; night soil, 2 cwt. to a square rod in Feb.; cow dung, 3 cwt. to a square rod; horse dung, 3 cwt. to a square rod, both applied in autn.; $1\frac{1}{2}$ lb. superphosphate, $1\frac{1}{2}$ lb. nitrate of soda, 1 lb. kainit, 3 lb. common salt, half to be applied ten days before sowing to a square rod; remainder when plants are 2 in. high (Sanders); 1 lb. nitrate of soda, $\frac{1}{2}$ lb. of guano, 3 oz. kainit, 3 oz. sulphate of iron, half to be applied to a square rod when plants are 3 in. high, remainder month afterwards (Griffiths); common salt 3 oz., and soot 3 oz., applied to a square yard fourteen days before sowing; superphosphate 3 lb., nitrate of soda $1\frac{1}{2}$ lb., to be applied a fortnight before sowing the seed, followed by $1\frac{1}{2}$ lb. of nitrate of soda when plants are 3 in. high. *Liquid manures*: nitrate of soda $\frac{1}{2}$ oz. to 1 gallon of water, applied occasionally when seedlings are 3 in. high; Peruvian guano, 1 oz. to gallon, applied similarly; fowl & pigeon dung $\frac{1}{2}$ peck, soot $\frac{1}{2}$ peck, soaked in 30 gallons of water, applied undiluted occasionally to seedlings when 3 in. high. **SPRING ONIONS**: Sow seeds broadcast, or in drills $\frac{1}{2}$ in. deep & 8 in. apart, Mar.; rows to run N. & S. if possible; or in shallow boxes of light soil in temp. 55° to 65° in Feb. or Mar., transplanting seedlings outdoors in Ap. or May. Firm soil essential. Thin seedlings when 2 to 3 in. high to 6 in. apart. Lift in Aug., dry thoroughly in sun, & store in cool dry place. **WINTER ONIONS**: Soil & manures as above. Sow end of Aug. or beginning of Sept. $\frac{1}{2}$ in. deep in drills 8 in. apart. Thin to 8 in. apart in Mar. Transplant thinnings in Mar. 6 in. apart in rows 12 in. asunder. Lift in July or Aug., dry & store away. Quantity of seed required for a row 50 ft. long, $\frac{1}{2}$ oz.; for bed 9 square yards, 1 oz. **POTATO ONION** (*Allium cepa* var. *aggregatum*): Soil & manures as above. Plant bulbs half their depth, 10 in. apart in rows 15 in. asunder, Jan. or Feb. When leaves are full grown, remove soil from base of bulb and apply stimulants. Lift, dry & store away in Aug. **TREE ONION** (*Allium cepa* var. *proliferum*): Soil, ordinary rich. Position, sunny. Plant ground bulbs 1 in. deep & 12 in. apart each way in Mar.; stem bulbs $1\frac{1}{2}$ in. deep, 4 in. apart in rows 8 in. asunder. Support stems with stakes. Gather stem bulbs when mature & store away in cool dry place. **LEeks** (*Allium porrum*): Soil, light rich. Position, open, sunny. Plant June to Aug. *Modes of Growing*: (1) trenches 15 in. wide & 18 in. deep, containing 6 in. of decayed pig, cow, or horse manure, or night soil, & 6 in. of good soil on this; (2) drills 6 in. deep 12 in. apart, no manure except that dug in soil; (3) holes $3\frac{1}{2}$ in. in diameter 3 to 4 in. deep made with dibbler, roots to rest on bottom of hole & be just covered with fine soil; (4) on the level surface, stem to be buried up to base of leaves. Distance for planting, 9 in. apart in rows 12 to 18 in. asunder. Draw soil up to base of leaves as stems grow. Water freely in dry weather. Apply stimulants as advised for onions. Remove flower stems at once. Transplant large plants in Mar. in sunny position for bearing seed. Gather seed heads in Sept., tie in bunches, & hang in cool dry shed. Sow seeds in light soil in temp. 65° in Feb. for planting out in June; $\frac{1}{2}$ in. deep in drills 6 in. apart outdoors in Mar. or Ap. for planting in July & Aug. **CHIVES** (*Allium schenoprasum*): Soil, ordinary. Position, open sunny border. Plant, 6 in. apart in rows 9 in. asunder, Mar. Lift, divide & replant every five years. **SHALLOTS** (*Allium ascalonicum*): Soil, light, rich. Position, warm sunny border. Plant, Feb. or Mar., placing bulbs (cloves) half their depth in soil, 9 in. apart, in rows 12 in. asunder. Draw earth away from base of bulbs when nearly full grown. Lift, dry & store away in Aug. Apply stimulants as for onions. **GARLIC** (*Allium sativum*): Soil & position as for shallots. Plant bulbs (cloves) 2 in. deep & 8 in. apart each way in Feb. Lift, dry & store away in Aug. No stimulants required. Propagate onion & leek by seed as above; tree onion by stem or ground bulbs; potato onion, shallots & garlic by offsets; chives by division in Mar.

Onion Asphodel (*Asphodelus fistulosus*)—see *Asphodelus*.

Onion Iris (*Iris tuberosa*)—see *Iris*.

Onion Oil-plant (*Allium cepa*)—see *Allium*.

Onion Plant (*Ornithogalum longibracteatum*)—see *Ornithogalum*.

Onoclea (Sensitive Fern).—*Ord.* Filices. Hardy deciduous fern. *Nat.* N. America, N. Asia. *Int.* 1799. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; variety, 1. *Fronds*, barren ones, broad, once divided, green; fertile ones, narrow, contracted, once divided, brown. **OUTDOOR CULTURE:** *Soil*, two parts good loam, one part leaf-mould. *Position*, semi-shaded cool moist border or margin of ponds. *Plant*, Ap. **POT CULTURE:** *Compost*, two parts fibrous loam, one part leaf-mould, one part sand. *Position*, well-drained pots in shady cold frame or greenhouse. *Pot*, Mar. or Ap. *Water* copiously. Ap. to Sept.; moderately, Sept. to Nov.; keep nearly dry, Nov. to Mar. *Repot* annually. *Propagate* by spores gathered just before the cases burst & sown on surface of well-drained pan of sandy peat & leaf-mould with square of glass, & kept moderately moist in shady position in cold frame or greenhouse; division of plants, Mar. or Ap.

Ononis (Rest-narrow).—*Ord.* Leguminosæ. Hardy annuals, herbaceous perennials & deciduous shrubs. *Nat.* S. Europe. *Int.* 1570. *Ht.* 1 to 2 ft. *Species* cultivated, 1 annual; 2 perennials; 4 shrubs. *Flowers*, yellow, purple, white, pink; May to Sept. **CULTURE OF ANNUAL SPECIES:** *Sow* seeds $\frac{1}{4}$ in. deep in patches in ordinary soil in sunny position in Ap. or Sept. where required to grow. **CULTURE OF PERENNIAL SPECIES:** *Soil*, ordinary. *Position*, sunny borders, banks or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Cut* down flower stems, Oct. *Mulch* with manure, Mar. *Lift* & replant in fresh soil every 4 or 5 years. **CULTURE OF SHRUBBY SPECIES:** *Soil*, ordinary. *Position*, sunny borders or banks. *Plant*, Oct. to Feb. *Prune* into shape, Jan. to Feb. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary soil in semi-shady position outdoors, Mar. or Ap.; or in shallow boxes or pans in cold frame or greenhouse in Mar.; perennials by division of roots, Oct. to Mar.

Onopordon (Cotton Thistle, Down Thistle).—*Ord.* Compositæ. Hardy annual, biennial & perennial herbs. *Orn.* foliage. *Nat.* Europe (Britain), Siberia, Barbary. *Int.* (foreign species) 1640. *Ht.* 4 to 8 ft. *Species* cultivated, 1 annual; 2 biennials; 1 perennial. *Flowers*, purple; June & July. *Leaves*, large, egg-shaped, finely cut. **CULTURE OF ANNUAL SPECIES:** *Sow* seeds $\frac{1}{4}$ in. deep in patches in ordinary soil in sunny position outdoors, Mar. or Ap. **CULTURE OF BIENNIAL SPECIES:** *Sow* seeds $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap. *Transplant* seedlings following Sept. to where required to flower. **CULTURE OF PERENNIAL SPECIES:** *Soil*, ordinary rich. *Position*, well-drained sunny borders. *Plant*, Oct. or Mar. singly or in groups of three. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap., transplanting seedlings to flowering position, Sept. or Oct.

Onosma (Golden Drop).—*Ord.* Boraginaceæ. Hardy biennial & perennial herbs. *Nat.* S. Europe. *Int.* 1683. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, yellow, almond-scented; May to Aug. **CULTURE OF BIENNIAL SPECIES** (*O. echoides*): *Soil*, two parts sandy loam, one part grit or broken stones. *Position*, ledges of sunny rockery. *Plant*, May. **CULTURE OF PERENNIAL SPECIES:** *Soil*, two parts sandy loam, one part grit or small stones. *Position*, sunny rockery where roots can descend close to cool moist stones and shoots trail over edge. *Plant*, Mar. or Ap. *Place* a few small stones on surface of soil around plant. *Water* occasionally in dry weather. *Mulch* annually with decayed cow manure in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. in sandy loam & grit in shallow pans in shady cold frame or cool greenhouse in Mar., planting outdoors in May; cuttings of shoot: inserted in sandy soil in close-shady frame or under hand-light in July or Aug.

Ontario Poplar (*Populus balsamifera candicans*)—see *Populus*.

Onychium.—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Himalayas, China, Japan. *Int.* date unknown. *Ht.* 12 to 18 in. *Species*

cultivated, 2. *Fronds*, 4 times divided, light and graceful, green. *Compost*, two parts peat & loam, leaf-mould and sand in equal parts. *Position*, well drained pots, beds or rockeries in shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Moist* atmosphere essential. *Temp.* for stove species, Mar. to Sept., 65° to 75°, Sept. to Mar., 55° to 65°; for greenhouse species, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in shade & temp. 70° to 80° any time; division of plants at potting time.

Open-flowered Clematis (*Clematis patens*)—see Clematis.

Opera Girls (*Mantisia saltatoria*)—see Mantisia.

Ophioglossum (Adder's Tongue Fern, Adder's Spear).—*Ord.* Filices. Hardy deciduous ferns. *Nat.* Northern hemisphere (Britain). *Ht.* 6 in. *Species* cultivated, 1; variety 1. *Fronds*, barren, egg-shaped, pale green; fertile, contracted, spike-like. **OUTDOOR CULTURE:** *Soil*, moist loamy. *Position*, in tufts of grass on partially shaded rockery. *Plant*, Ap. to Aug. *Lift* plants growing wild with large sod attached & plant in same. *Water* freely in dry weather. **POT CULTURE:** *Compost*, sandy loam & leaf-mould in equal parts. *Position*, shallow pans well drained in cold shady frame. *Plant*, Ap. to Aug. *Water* freely, Mar. to Sept.; keep just moist afterwards. *Propagate* by spores gathered when ripe in July, & sown on surface of pans of above soil, covered with a sheet of glass & placed in a cool moist frame or greenhouse; division of plants in Ap.

Ophiopogon (Snake's-beard).—*Ord.* Hæmodoraceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Japan, China, *Int.* 1781. *Species* cultivated, 2; varieties 2. *Flowers*, white, lilac, violet, blue; June to Nov. *Leaves*, long, narrow, green & variegated with yellow or creamy white. **OUTDOOR CULTURE:** *Soil*, sandy loam. *Position*, edge to or groups in sunny borders. *Plant*, Oct. or Mar. *Lift*, divide & replant every 4 or 5 years. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould or decayed manure & one part sand. *Position*, well drained pots or in small beds in cold or heated greenhouses, conservatories, ferneries or windows. *Adapted* for sun or shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Apply* stimulants once or twice weekly, Ap. to Sept. *Propagate* by division of plants in Feb. or Mar.

Ophrys (Bee Orchis, Fly Orchis, Spider Orchis, Black Spider Orchis, Bee-flower, Looking Glass Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Europe (Britain). *Ht.* 6 to 10 ft. *Species* cultivated, about 12. *Flowers*, green, rose, brown, yellow, red, blue, purple, gold; Ap. to June. **OUTDOOR CULTURE:** *Soil*, sandy loam mixed with pieces of chalk or broken limestone. *Position*, dry sunny rockeries. *Plant*, Aug. to Nov. *Cover* surface of soil between plants with pieces of chalk or limestone, or mulch with layer of cocoanut-fibre refuse. **POT CULTURE:** *Compost*, two parts sandy loam, one part pieces of broken limestone or chalk. *Position*, small well drained pots or pans in cold sunny frame or greenhouse. *Pot*, Aug. to Nov., placing tubers 1 in. below surface & pressing soil firmly. *Place* 6 tubers in 6-in. pot. *Plunge* pots to rims in cocoanut-fibre refuse or ashes during growing period. *Water* freely from time growth begins till foliage dies down, then keep nearly dry. *Repot* every 2 or 3 years. *Propagate* by division of tuberous roots in Mar. or Ap.

Opium Poppy (*Papaver somniferum*)—see Papaver.

Opuntia (Bastard Fig, Indian Fig, Prickly Pear, Cochineal Cactus, Barbary Fig).—*Ord.* Cactaceæ. Greenhouse & hardy succulent plants. *Nat.* S. Europe, Brazil, Chili, Peru, Bolivia, Mexico, Paraguay, West Indies, Colorado. *Ht.* 6 in. to 8 ft. *Int.* 1596. *Species* cultivated, about 50. *Flowers*, purple, yellow, red; May to Aug. *Stems*, fleshy, flat, bristly. *Leaves*, small, unimportant, fugacious. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part powdered brick rubbish & old mortar. *Position*, sunny airy greenhouse or window. *Pot*, Mar. or Ap. in pots filled $\frac{1}{2}$ of depth

with potsherds, & just large enough to accommodate roots. *Repot every 3 or 4 years only.* *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Nov.; none afterwards. *Apply* stimulants to healthy plants, June to Sept. *Ventilate* freely in sum. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. **CULTURE OF HARDY SPECIES:** *Soil*, sandy loam, freely interspersed with powdered brick or old mortar. *Position*, sunny well drained rockeries. *Plant*, Mar. or Ap. *Cover* surface of soil between plants with small pieces of stone. *Sprinkle* soot freely between plants occasionally to keep away slugs. *Apply* weak liquid manure occasionally during sum. to healthy plants only. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or pans of sandy soil in temp. 75° in Mar. Keep soil moderately moist; cuttings of portions of stems exposed for a few days, then inserted in small well drained pots of lime & brick dust in temp. 65° to 75°, sum.; delicate species by grafting on robust kinds in Ap.

Oplismenus (Variegated Panicum).—*Ord.* Graminaceæ. Greenhouse perennial, trailing grass. *Orn.* foliage. *Nat.* tropical Asia. *Int.* 1867. *Species* cultivated, 1. *Flowers*, insignificant. *Stems*, small, wiry, trailing. *Leaves*, green, variegated with white & pink. *Compost*, equal parts peat, loam, leaf-mould & sand. *Position*, small pots with shoots draping front of staging, or in baskets suspended from roof; sun or shade. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally in sum. *Temp.*, Mar. to Sept., 60° to 75°; Sept. to Mar., 55° to 65°. *Propagate* frequently by cuttings of young shoots inserted in light sandy soil in small pots under bell-glass or hand-light in temp. 65° to 75° at any time.

Orange (*Citrus aurantium*)—see Citrus.

Orange-and-Yellow Columbine (*Aquilegia canadensis*)—see Aquilegia.

Orange Fig Marigold (*Mesembryanthemum aurantiacum*)—see Mesembryanthemum.

Orange-flowered Evening-Primrose (*Oenothera bistorta Veitchi*)—see Oenothera.

Orange-flowered Hawk-weed (*Hieracium aurantiacum*)—see Hieracium.

Orange-flowered Horned-Poppy (*Glaucium fulvum*)—see Glaucium.

Orange Gourd (*Cucurbita Pepo aurantia*)—see Cucurbita.

Orange Lily (*Lilium bulbiferum aurantium*)—see Lilium.

Orange Monkey-flower (*Diplacus glutinosus*)—see Diplacus.

Orange Oil-plant (*Citrus aurantium* & *C. Bigaradia*)—see Citrus.

Orange Poppy (*Papaver lateritium*)—see Papaver.

Orange-root (*Hydrastis canadense*)—see Hydrastis.

Orange Stone-crop (*Sedum Kamtschaticum*)—see Sedum.

Orchis (Cuckoo Flower, Purple Orchis, Hand Orchis, Madeira Orchis, Tawny Orchis, Marsh Orchis, Adder's Grass, Military Orchis, Soldier Orchis, Purple Butterfly Orchis, Monkey Orchis).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. Deciduous. *Nat.* Europe (Britain), Asia, N. Africa, N. America. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 26. *Flowers*, purple, white, brown, rose, pink, crimson, lilac, grey, yellow, some fragrant; Mar. to July. **CULTURE:** *Soil*, calcareous loam or clay mixed with pieces of limestone for (a) *O. fragrans*, *O. fusca*, *O. funerea*, *O. lactea*, *O. longicornis*, *O. militaris*, *O. pallens*, *O. papilionacea*, *O. provincialis*, *O. pauciflora*, *O. Robertiana*, *O. saccata*, *O. sambucina*, *O. sicula*, *O. strobilata*, & *O. undulatifolia*; equal parts peat, loam & leaf-mould for (b) *O. latifolia*, *O. maculata*, *O. mascula*, *O. Morio*, & *O. spectabilis*; two parts peat, one part loam for (c) *O. Mumbyana*, & *O. ustulata*; equal parts meadow loam & leaf-mould for (d) *O. foliosa*. *Position*, sunny deep well drained borders for class a; well drained shady borders for class b; shady moist border or bog for class c; partially shady

moist border for class *d*. *Plant*, Aug. to Nov., placing tubers 2 in. below surface. *Water* freely during growing period. *Mulch* with decayed manure annually in Mar. or Ap. *Leaf* & replant when unhealthy only. *Apply* weak stimulants occasionally during sum. *POT CULTURE*: *Compost*, equal parts good loam, sandy peat, leaf-mould, charcoal, broken chalk & silver sand. *Position*, well drained pots in cold shady frame. *Pot*, Aug. to Nov., placing tubers 1 in. below surface, & 3 to 5 in a 6-in. pot. *Make* compost firm. *Plunge* pots to rims in cinder ashes or cocoanut-fibre refuse. *Water* copiously from time growth begins till foliage fades; then keep nearly dry. *Apply* weak stimulants from Ap. till flowers fade. *Remove* flower spikes when blooms fade. *Repot* every 2 or 3 years. *Protect* from Dec. to Feb. by covering of cocoanut-fibre refuse or cinder ashes. *Propagate* by division of tubers, Aug. to Nov.

Oregon Crab Apple (*Pyrus rivularis*)—see *Pyrus*.

Oregon Cypress (*Cupressus Lawsoniana*)—see *Cupressus*.

Oregon Grape (*Berberis aquifolium*)—see *Berberis*.

Oregon Larch (*Larix occidentalis*)—see *Larix*.

Oregon Rock-Brake (*Allosorus acrostichoides*)—see *Allosorus*.

Oregon White Cedar (*Cupressus Lawsoniana*)—see *Cupressus*.

Oregon Wind-flower (*Anemone deltoidea*)—see *Anemone*.

Oreocome.—*Ord.* Umbelliferae. Hardy herbaceous perennial. *Flowering* & orn. foliage. *Nat.* Himalayas. *Int.* (date not known). *Ht.* 4 to 5 ft. *Habit*, pyramidal. *Species* cultivated, 1. *Flowers*, white; *sum.* *Soil*, ordinary. *Position*, sunny borders or as specimen plant on lawn. *Plant*, Oct. to Mar. *Propagate* by seeds sown in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May or June; by division of roots in Oct. or Mar.

Oreodaphne (Balm of Heaven).—*Ord.* Lauraceae. Hardy evergreen tree. *Aromatic* foliage. *Nat.* California. *Int.* 1862. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, greenish; *June.* *Leaves*, oblong, lance-shaped, highly perfumed. *Soil*, ordinary. *Position*, sheltered sunny borders or shrubberies S. & W. of England only. *Plant*, Oct., Nov. or Ap. *Prune*, when necessary, Ap. *Propagate* by seeds sown in sandy soil in temp. 55° to 65° in spring; by cuttings of firm young shoots inserted in sandy soil under bell glass in cold frame or greenhouse in sum.

Oriental Arbutus Tree (*Arbutus Andrachne*)—see *Arbutus*.

Oriental Clematis (*Clematis orientalis*)—see *Clematis*.

Oriental Goat's-Rue (*Galega orientalis*)—see *Galega*.

Oriental Hellebore (*Helleborus orientalis*)—see *Helleborus*.

Oriental Plane-tree (*Platanus orientalis*)—see *Platanus*.

Oriental Poppy (*Papaver orientale*)—see *Papaver*.

Oriental Strawberry-tree (*Arbutus Andrachne*)—see *Arbutus*.

Origanum (Marjoram, Winter Sweet, Pot Marjoram, Knotted Marjoram, Organy, Dittany of Crete, Dittany of Amorgos).—*Ord.* Labiatae. Hardy herbaceous shrubby plants & aromatic herbs. *Nat.* Europe (Britain), Levant, Candia, Grecian Archipelago. *Int.* (foreign species) 1551. *Ht.* 1 to 2 ft. *Species* cultivated, 4 herbs; 2 shrubby species. *Flowers*, pink, purple, white; *May* to *Sept.* *CULTURE OF COMMON POT AND WINTER MARJORAM*: *Soil*, ordinary rich. *Position*, sunny borders. *Plant*, Feb. or Mar., 10 in. apart in rows 15 in. asunder. *Top-dress* annually in Mar. with decayed manure. *Leaf*, divide & replant every 3 or 4 years. *CULTURE OF SWEET MARJORAM*: *Soil*, ordinary rich. *Position*, sunny borders. *Sow* seeds $\frac{1}{4}$ in. deep in light soil in shallow boxes in temp. 55° to 65° in Mar., transplanting seedlings when 2 in. high, 6 in. apart in rows 9 in. asunder, or 5 or 6 seeds in groups $\frac{1}{2}$ in. deep, 6 in. apart in rows 9 in. asunder in Ap. outdoors, thinning seedlings to one in each group when 1 to 2 in. high. *Gather* shoots of marjorams when coming into flower, dry in shade & store away for winter use. *CULTURE OF SHRUBBY SPECIES*: *Compost*, two parts sandy loam, one part leaf-mould

& sand. *Position*, well drained pots in sunny window or greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately afterwards. *Suitable for suspending in pots or baskets*. *Apply* stimulant occasionally during sum. *Propagate* common pot or winter marjoram by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors in Mar. or Ap.; division of roots, Mar. or Ap.; shrubby species by cuttings of young shoots inserted in sandy soil under bell-glass in greenhouse or window in sum.

Orinoco Bamboo (*Bambusa latifolia*)—see *Bambusa*.

Orleans Plum-tree (*Prunus domestica*)—see *Prunus*.

Ornamental Cloud-grass (*Agrostis nebulosa* & *A. pulchella*)—see *Agrostis*.

Ornithogalum (Star of Bethlehem, Onion Plant).—*Ord.* Liliaceæ. Hardy & greenhouse bulbous plants. *Nat.* Europe (Britain), Cape of Good Hope, Asia Minor. *Int.* (foreign species) 1516. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 25. *Flowers*, yellow, white; Mar. to July. **OUTDOOR CULTURE**: *Soil*, rich ordinary, sandy. *Position*, sunny borders, rockeries or turf. *Plant*, Aug. to Nov., placing small bulbs 3 in., & large bulbs 4 to 6 in. below surface, & 2 to 3 in. apart. *Mulch* annually in Mar. with decayed manure. *Apply* weak stimulants occasionally in sum. **INDOOR CULTURE**: *Compost*, two parts sandy loam, one part equal proportions leaf-mould, peat & sand. *Position*, pots in sunny greenhouse or window. *Pot*, Sept. to Feb., placing several small or one large bulb in a 5 or 6-in. pot. *Good drainage* essential. *Water* moderately when growth begins, freely when in full growth, gradually withholding when foliage turns yellow, & keeping dry till new growth begins. *Apply* stimulants occasionally whilst in full growth. *Repot* annually. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. **CULTURE OF ONION PLANT** (*O. longitractatum*): *Compost*, two parts sandy loam, one part leaf-mould & well decayed manure & little sand. *Position*, sunny window or outdoors June to Sept. *Pot*, Feb. or Mar. *Good drainage* & firm potting essential. *Water* moderately, Feb. to May; freely, May to Sept.; moderately, Sept. to Nov.; keep quite dry, Nov. to Feb. *Apply* stimulants once a week, May to Sept. *Propagate* by offsets removed from old bulbs & repotted, Sept. to Feb.

Ornus (Flowering Ash) also named *Fraxinus ornus*; see *Fraxinus*.

Orobis (Orange-flowered Bitter Vetch, Lathyrus-like Bitter Vetch).—*Ord.* Leguminosæ. Hardy herbaceous perennials. *Nat.* Europe, Caucasus. *Int.* 1629. *Ht.* 1 to 2 ft. *Species* cultivated, about 4. *Flowers*, yellow, purple, cream, rose, white, blue, red; Mar. to June. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Mulch* annually with decayed manure. *Lift*, divide & replant every 4 or 5 years. *Cut* down flower stems, Oct. or Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Orontium (Golden Club).—*Ord.* Aroidaceæ. Hardy aquatic perennial. *Nat.* N. America. *Int.* 1775. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; fragrant; June. *Soil*, boggy. *Position*, margins of shallow ponds or rivulets. *Plant*, Oct. to Mar., placing roots 6 to 12 in. below surface of water. *Propagate* by division of root stock in Oct. or Mar.

Orphine-like Sedum (*Sedum telephioides*)—see *Sedum*.

Osage Orange (*Maclura aurantiaca*)—see *Maclura*.

Osmanthus (Fragrant Olive, Holly-leaved Olive).—Hardy evergreen flowering shrubs. *Nat.* Japan, China. *Int.* 1771. *Ht.* 6 to 10 ft. *Species* cultivated, 2. *Flowers*, white, yellow; fragrant; June to Sept. *Soil*, loamy. *Position*, sheltered sunny borders, or against S. or W. walls. *Plant*, Sept., Oct. or Ap. *Prune* when necessary, Ap. **POT CULTURE**: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, cold sunny greenhouse, Sept. to June; outdoors, June to Sept. *Pot*, Sept. or Oct. *Water* freely, Ap. to Oct.; moderately other times. *Temp.*, Sept. to May, 40° to 50°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy peat in cold frame in spring or autumn;

by cuttings of firm young shoots inserted in sandy soil under hand-light on doors, or in frame in sum.

Osmunda (Royal Fern, Flowering Fern, Cinnamon Fern, Dutch Fern, Herb Christopher, King Fern, Osmund Royal, Osmunda Waterman, Clayton's Flowering Fern).—*Ord.* Filices. Greenhouse & hardy evergreen & deciduous ferns. *Nat.* Europe (Britain), Japan, Himalayas, N. America. *Int.* (foreign species) 1772. *Ht.* 18 in. to 2 ft. *Species* cultivated, 5; varieties several. *Fronds*, feathery shaped, plain or crested; fertile portions contracted. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, equal parts turfy loam & peat, little sand. *Position*, pots or beds in moist shady part of greenhouse or fernery. *Pot* or plant, Mar. or Ap. *Water* copiously, Ap. to Oct.; moderately afterwards. *Temp.*, 55° to 65°, Ap. to Sept.; 45° to 55°, Sept. to Ap. **CULTURE OF HARDY SPECIES:** *Soil*, one part each loam, leaf-mould & sand, two parts peat. *Position*, bases of sheltered moist rockeries or margins of ponds in shade or partial shade. *Plant*, Ap. *Top-dress* annually in Ap. with compost of peat, leaf-mould & loam. *Remove* dead fronds in Mar. *Water* plants growing otherwise than on the margins of ponds copiously in dry weather. *Propagate* by spores sown on surface of sandy peat & leaf-mould in well drained pans, covered with sheet of glass or hand-light in shady part of cool greenhouse at any time; offsets from established plants in Ap.

Ostrich Fern (*Struthiopteris germanica*)—see *Struthiopteris*.

Oswego Tea-plant (*Monarda didyma*)—see *Monarda*.

Otago Birch (*Fagus Menziesii*)—see *Fagus*.

Otaheite Apple (*Spondias dulcis*)—see *Spondias*.

Othonna (African Rag-wort, Barbary Rag-wort).—*Ord.* Compositæ. Greenhouse & hardy perennial & trailing herbs. *Nat.* N. & S. Africa. *Int.* 1762. *Species* cultivated, 2. *Flowers*, yellow; June to Sept. **CULTURE OF GREENHOUSE SPECIES** (*O. crassifolia*): *Compost*, two parts sandy loam, one part leaf-mould & one part sand. *Position*, small well drained pots or baskets suspended from roof. *Pot*, Mar. or Ap. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* stimulants to healthy plants occasionally during sum. *Full* exposure to light & sun essential. **CULTURE OF HARDY SPECIES** (*O. cheirifolia*): *Soil*, ordinary sandy. *Position*, sunny well drained rockeries with shoots trailing over large stones. *Plant*, Mar. or Ap. *Water* in very dry weather. *Protect* in severe weather with light covering of litter. *Propagate* by cuttings of shoots inserted in sandy soil in cool greenhouse or frame in sum.; division of plants in Ap.

Our Lady's Thistle (*Carduus Marianus* & *Silybum Marianum*)—see *Carduus* & *Silybum*.

Ourisia.—*Ord.* Scrophulariaceæ. Hardy perennial creeping herbs. *Nat.* Andes of Chili. *Int.* 1862. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, scarlet, crimson, red, creamy white; May to Sept. *Soil*, moist loamy. *Position*, partially shaded rockery, with its roots placed close to a lump of soft porous stone. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Must* not be exposed to sunshine. *Propagate* by division of roots in Mar. or Ap.

Ouvirandra (Lattice-leaf Plant).—*Ord.* Naiadaceæ. Stove aquatic perennials. *Orn.* foliage. *Nat.* Madagascar. *Int.* 1855. *Species* cultivated, 2. *Flowers*, pink, white; Aug. *Leaves*, broad, oblong, skeleton-like. *Compost*, equal parts loam & leaf-mould. *Position*, in small pot immersed in tub or tank of water 12 to 18 in. deep. *Pot*, Feb or Mar. *Temp.* of water, 65° to 75°. *Change* water occasionally. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seed sown $\frac{1}{2}$ in. deep in above compost in small pot immersed in water heated to temp. 75°, any time; division of roots, Feb. to Mar.

Oval-leaved Andromeda (*Andromeda ovalifolia*)—see *Andromeda*,

Oval-leaved Privet (*Ligustrum ovalifolium*)—see *Ligustrum*.

Oval-leaved Thorn (*Cratægus ovalifolia*)—see *Cratægus*.

Ovate-leaved Ash (*Fraxinus americana ovata*)—see *Fraxinus*.

Ovate-leaved Azalea (*Azalea ovata*)—see *Azalea*.

Ovate-leaved Phlox (*Phlox ovata*)—see *Phlox*.

Ovate-leaved Red-root (*Ceanothus ovatus*)—see *Ceanothus*.

Over-cup Oak (*Quercus lyrata* & *Q. macrocarpa*)—see *Quercus*.

Oxalis (Wood Sorrel, French Sorrel).—*Ord.* Geraniaceæ. Greenhouse & hardy annuals, herbaceous perennials, and bulbous rooted plants. *Nat.* Europe (Britain), Chili, Brazil, Cape of Good Hope, Peru, Mexico, Buenos Ayres, Bolivia, N. America. *Int.* (foreign species) 1659. *Ht.* 3 in. to 2 ft. *Species* cultivated, 4 annuals, about 30 perennials. *Flowers*, white, purple, violet, pink, lilac, rose, yellow, red, crimson; *Mar.* to *Nov.* **CULTURE OF GREENHOUSE ANNUALS:** *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well drained pots in sunny part of greenhouse. *Sow seeds* $\frac{1}{8}$ in. deep in 5-in. pots filled with above compost in *Mar.*, place in temp. 55° to 65°, & cover with square of glass. *Water* moderately at first; freely when in full growth. *Thin seedlings* to an inch apart when large enough to handle. *Support* shoots by small stakes, or place in suspended baskets, & allow to hang down. **CULTURE OF GREENHOUSE PERENNIALS:** *Compost*, as above. *Position*, well drained pots in sunny greenhouse or window. *Put* autumn-flowering kinds in *Aug.*, winter-flowering kinds in *Sept.* or *Oct.*, spring-flowering kinds, *Jan.* or *Feb.*, & summer-flowering kinds, *Mar.* or *Ap.* *Put* bulbs $\frac{1}{2}$ in. deep & $\frac{1}{2}$ in. apart in 5-in. pots. *After* potting, place in warm part of greenhouse or window. *Water* moderately till leaves appear, then freely. *Apply* stimulants occasionally when flowers form. *Gradually* withhold water when flowers fade, & keep quite dry & cool till growth begins. *Repot* annually. **CULTURE OF HARDY ANNUALS:** *Soil*, ordinary. *Position*, edgings to sunny beds or borders or on rockeries. *Sow seeds* $\frac{1}{8}$ in. deep where plants are required to grow in *Mar.* or *Ap.* *Thin seedlings* to 2 or 3 in. apart when threeleaves are formed. **CULTURE OF HARDY PERENNIALS:** *Soil*, sandy loam. *Position*, edgings to sunny borders or on rockeries. *Plant* bulbous species, *Aug.* to *Nov.*, placing bulbs 2 in. below surface, & 6 to 12 in. apart; herbaceous perennials in *Mar.* or *Ap.* *Lift* bulbs of choice species in *Sept.* or *Oct.* *Store* in sand in cool frost-proof place till *Mar.*, then plant out. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light sandy soil in temp. 55° to 65° in spring; division of roots or offsets at potting or planting time.

Ox-eye Bean (*Dolichos urens*)—see *Dolichos*.

Ox-eye Daisy (*Chrysanthemum leucanthemum*)—see *Chrysanthemum*.

Oxlip (*Primula elatior*)—see *Primula*.

Oxycoccus (Common Craneberry, American Craneberry, Moss-berry).—*Ord.* Vacciniaceæ. Hardy evergreen trailing shrub. Edible fruiting. *Nat.* Britain, N. America. *Int.* (foreign species) 1760. *Species* cultivated, 2. *Flowers*, pink; *Mar.* to *June*. *Berries* globular, deep red; ripe *sum.* *Soil*, peat or bog. *Position*, open moist beds near ponds or streamlets. *Excavate* soil to depth of 6 in. below surrounding surface, & place 9 in. of peat or bog soil & loose stones in, & allow water to percolate to within 3 in. of surface. *Plant*, *Sept.* or *Mar.*, 2 ft. apart each way. **CULTURE IN SMALL PONDS:** *Soil*, peat or bog. *Position*, slightly drained pots immersed in water to within 2 in. of rim. *Pot*, *Sept.* to *Oct.* *Syringe* or sprinkle foliage every evening in *sum.* *Propagate* by cuttings of shoots inserted in sandy moist peat under hand-light in shade in *sum.*; layering shoots in *autn.*; division of plants in *Sept.* or *Mar.*

Oxytropis (Yellow-flowered Oxytrope, Pyrenean Oxytrope, Foetid Oxytrope).—*Ord.* Leguminosæ. Hardy perennial herbs. *Nat.* Europe (Britain), Asia. *Int.* (foreign species) 1581. *Ht.* 3 to 6 in. *Species* cultivated, 10. *Flowers*, creamy-white, rose, blue, yellow, purple; *June* to *Aug.* *Soil*, dry, gravelly or sandy loam. *Position*, open sunny rockeries. *Plant*, *Mar.* or *Ap.* *Lift*, & replant only when unhealthy. *Propagate* by seeds

sown $\frac{1}{2}$ in. deep in Ap. or May where required to grow; division of roots in Mar.

Oryzal Fir (*Pinus religiosa*)—see *Pinus*.

Oyster Plant (*Mertensia maritima*)—see *Mertensia*.

Ozothamnus.—Ord. Compositæ. Hardy evergreen flowering shrub. *Nat.* Australia. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, white; July. *Soil*, ordinary. *Position*, sunny sheltered borders or against S. or W. walls, S. or W. of England only. *Plant*, Sept., Oct. or Ap. *Prune* when necessary in Ap. *Propagate* by cuttings of firm young shoots inserted in sandy soil under hand light in shady position in sum.

Pachyphytum.—Ord. Crassulacæ. Greenhouse & half-hardy evergreen succulent plants. *Nat.* Mexico. *Int.* date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, red; July. **INDOOR CULTURE**: *Compost*, two parts loam, one part sand & fine brick rubbish. *Position*, well drained pots close to glass in window or greenhouse. *Repot*, Mar. or Ap. *Water* freely, Mar. to Sept.; very freely afterwards. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept., 60° to 70°. **OUTDOOR CULTURE**: *Soil*, ordinary. *Position*, sunny rockeries or beds. *Plant*, June. *Leaf*, pot & place in greenhouse in Sept. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar.; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept. or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Pachystoma.—Ord. Orchidacæ. Stove terrestrial orchids. *Nat.* Ceylon, Tropical Africa. *Int.* 1866. *Species* cultivated, 2. *Ht.* 6 in. *Flowers*, yellow, white, red, purple; June to Oct. *Compost*, good fibry peat. *Position*, pots or hanging baskets, well drained. *Water* freely from time new growth commences until leaves fall off, very little other times. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of plant at potting time.

Pæonia (Peony, Peony, Piony).—Ord. Ranunculacæ. Hardy herbaceous & shrubby perennials. *Nat.* China, Turkey, Siberia, Spain, Portugal, England, Crimea, Himalayas, Levant, Sicily. *Int.* 1548. *Species* cultivated, 2 shrubby, 29 herbaceous; varieties numerous. *Ht.* 2 to 5 ft. *Flowers*, white, rose, scarlet, crimson, yellow; Mar. to June. **CULTURE OF TREE PÆONIES** **OUTDOORS**: *Soil*, two parts loam, one part decomposed cow manure. *Position*, sheltered nooks & sunny shrubberies or borders. *Plant*, Sept., Oct. or Mar., in beds of above compost, 18 in. deep & 2 ft. wide, well drained. *Bury* point of union between stock & scion 3 in. below surface. *Mulch* in spring with thick layer of cow manure. *Protect* in severe weather with covering of litter. *Plants* flower three years after planting. **CULTURE IN POTS**: *Compost*, two parts loam, one part decayed cow manure & sand. *Pot*, Oct. or Nov. *Place* in cold frame till Mar., then remove to greenhouse. *Stand* in sunny position outdoors, June to Oct. *Water* freely, Mar. to Sept., moderately in winter. *Apply* weak manure water occasionally, Mar. to Sept. *Plants* flower once in three years only. *Temp.* for forcing, 55° to 65°. **CULTURE OF HERBACEOUS SPECIES**: *Soil*, moist loam well enriched with cow manure & trenched 3 ft. deep. *Position*, sunny or shady borders. *Plant*, Oct. to Ap. 4 ft. apart each way. *Top-dress* annually with well decayed manure lightly forked into surface in Oct. or Nov. *Mulch* on dry soils in Ap. *Apply* liquid or artificial manures occasionally, Ap. to Aug. *Water* copiously in dry weather. *Shade* blooms required for exhibition from sun. *Propagate* herbaceous species by seeds sown $\frac{1}{2}$ in. deep in boxes, pots or pans of sandy soil in cold frame in Sept.; also by division of roots in Mar. or Ap. *Tree species* by grafting on the fleshy roots of *P. albiflora* & *P. officinalis* in Aug.; layering in Sept. or Oct.; division of roots, Mar. or Ap.

Peony (*Pæonia officinalis*)—see *Pæonia*.

Peony Poppy (*Papaver somniferum*)—see *Papaver*.

Paigle (*Primula veris*)—see *Primula*.

Painted Grass (*Phalaris arundinacea variegata*)—see *Phalaris*.

Palafoxia.—*Ord.* Compositæ. Half-hardy herbaceous perennials. *Nat.* Rocky Mountains, Texas. *Int.* 1821. *Species* cultivated, 2. *Ht.* 1 to 2 ft. *Flowers*, rose, pink; June to Sept. *INDOOR CULTURE*: *Compost*, sandy loam one part, little leaf-mould & sand. *Pot*, Feb. or Mar. *Position*, light greenhouse, Sept. to June; sunny cold frame, June to Sept. *Water* moderately, Sept. to Mar.; freely afterwards. *Apply* stimulants occasionally during flowering period. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 55° to 65°. *OUTDOOR CULTURE*: *Treat* as half-hardy annuals. *Sow* seeds $\frac{1}{8}$ in. deep in shallow boxes or pans of light soil in temp. 55° to 65° in Mar. *Transplant* seedlings in sunny borders outdoors in June. *Propagate* by seeds sown as for outdoors; cuttings of young shoots inserted in sandy soil in Mar. or Ap.; division of plants at potting time.

Palavia.—*Ord.* Malvaceæ. Half-hardy annuals. *Nat.* Chili, Peru. *Int.* 1830. *Ht.* 6 to 9 in. *Species* cultivated, 3. *Flowers*, mauve, pink, rose; June to Sept. *Soil*, ordinary. *Position*, sunny borders or rockeries. *Sow* seeds $\frac{1}{8}$ in. deep in pots or boxes of light sandy soil in temp. 55° to 65° in Mar. or Ap. *Transplant* seedlings outdoors in May or June.

Pale Blue Iris (*Iris pallida*)—see *Iris*.

Pale-flowered Butter-wort (*Pinguicula lusitanica*)—see *Pinguicula*.

Pale-flowered Daffodil (*Narcissus pallidus*)—see *Narcissus*.

Pale-flowered Flax (*Linum angustifolium*)—see *Linum*.

Pale-flowered Orchis (*Orchis pallens*)—see *Orchis*.

Paliurus (Christ's Thorn, Garland Thorn, Ram of Libya).—*Ord.* Ranunculacæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, W. Asia, S. China. *Int.* 1596. *Ht.* 8 to 10 ft. *Species* cultivated, 2. *Flowers*, greenish yellow; June to Sept. *Branches*, spiny. *Fruit*, ornamental. *Soil*, ordinary. *Position*, shrubberies or walls. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors, Oct. to Nov.; cuttings of roots planted 3 in. deep & 6 in. apart, Oct. to Feb.; layering shoots, Sept. to Nov.; removing suckers with roots attached, Sept. to Dec.

Pallas's Ixia-Lily (*Ixiolirion Pallasii*)—see *Ixiolirion*.

Palma-Christi (*Ricinus communis*)—see *Ricinus*.

Palmate-leaved Ivy (*Hedera Helix palmata*)—see *Hedera*.

Palmate-leaved Rhubarb (*Rheum palmatum*)—see *Rheum*.

Palmate-leaved Saxifrage (*Saxifraga palmata*)—see *Saxifraga*.

Palm Lily (*Cordylone indivisa*)—see *Cordylone*.

Palumbina.—*Ord.* Orchidacæ. Stove epiphytal orchid. *Nat.* Mexico. *Int.* 1843. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white, spotted with red; June to Sept. *Compost*, two parts fibrous peat, one part of equal proportions of sphagnum moss & charcoal. *Position*, pots, wood or earthenware baskets, rafts or blocks. *Pot*, Feb. or Mar. Fill pots or pans two thirds of their depth with potsherds. *Place* layer of moss on this, then fill remainder of space with compost to 1 in. above rim. Put plant on this, cover roots with compost & layer of moss, & secure firmly with copper wire. *Baskets*: Line interior with moss, then fill with compost & place plant on top, securing it firmly with copper wire. *Blocks*: Place roots next wood, cover with peat & sphagnum moss, & secure firmly with copper wire. *Water* plants on blocks twice daily in sum., once a day other times; those in pots & baskets once a day, Ap. to Sept., twice a week, Sept. to Nov. & Feb. to Ap., once a week at other times. *Syringe* lightly daily in sum. *Moist* atmosphere highly essential. *Shade* from bright sunshine only. *Ventilate* freely in sum. *Temp.*, Nov. to Ap., 60° to 70°; Ap. to Nov., 70° to 85°. *Growing period*, Mar. to Sept.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs at potting time.

Pampas Grass (*Gynerium argenteum*)—see *Gynerium*.

Panax (Ginseng Plant, Victorian Elderberry Ash.—*Ord.* Araliaceæ. Stove & greenhouse evergreen shrubs & hardy herbaceous perennial. *Orn.* foliage. *Nat.* India, South Sea Islands, Queensland, Japan, N. America. *Int.* 1740. *Ht.* 6 in. to 10 ft. *Species* cultivated, 10 stove, 2 greenhouse, 1 hardy. *Leaves*, coarsely & finely divided, green & variegated with white. **CULTURE OF STOVE & GREENHOUSE SPECIES:** *Compost*, equal parts loam, peaty leaf-mould, charcoal & sand. *Pot*, Feb. to Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, stove, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°; greenhouse, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 55°. **CULTURE OF HARDY SPECIES:** *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. or Mar. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap. Hardy species by division.

Pancratium (Mediterranean Lily, Sea Daffodil).—*Ord.* Amaryllidaceæ. Stove, greenhouse & hardy, evergreen & deciduous bulbous plants. *Nat.* West Indies, Canary Islands, S. Europe. *Int.* 1596. *Ht.* 1 to 2 ft. *Species* cultivated, 6 stove, 6 greenhouse, 2 hardy. *Flowers*, white; fragrant. Ap. to Oct. **CULTURE OF STOVE & GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part decayed manure & half a part silver sand. *Position*, well drained pots in sunny part of stove & greenhouse. *Pot*, Mar. *Repotting* necessary every three or four years only. *Water* abundantly, Ap. to Sept.; moderately, Sept. to Dec.; keep quite dry, Dec. to Mar. *Apply* liquid manure once or twice a week, May to Sept. *Temp.* for stove species, 70° to 80°, Mar. to Sept.; 55° to 65°, Sept. to Mar.; greenhouse species, 55° to 65°, Ap. to Sept.; 45° to 50°, Sept. to Ap. **CULTURE OF HARDY SPECIES:** *Soil*, three parts sandy loam, one part leaf-mould. *Position*, warm exposed well drained borders. *Plant* bulbs 3 to 4 in. deep, Oct., Nov. or Mar. *Protect* in winter by layer of decayed manure, cocoanut-fibre refuse or cinder ashes. *Mulch* after growth commences with decayed cow manure. *Apply* weak stimulants occasionally during sum. *Lift*, divide & transplant every three years. *Propagate* greenhouse & stove species by offsets removed from old bulbs in Mar.; hardy kinds similarly when repanting.

Pandang Oil-plant (*Pandanus odoratissimus*)—see *Pandanus*.

Pandanus (Javanese Screw Pine, Chandelier Tree, Fragrant Screw Pine, Moreton Bay Bread Fruit Tree).—*Ord.* Pandanaceæ. Stove evergreen shrubs. *Orn.* foliage. *Nat.* East Indies, Singapore, Madagascar, Mauritius. *Int.* 1771. *Ht.* 2 to 10 ft. *Species* cultivated, about 18; varieties several. *Leaves*, narrow, strap-like, serrated, green or variegated with white. *Compost*, two parts sandy loam, one part equal proportions leaf-mould, charcoal & sand. *Pot*, Jan. to Ap. *Position*, sunny moist part of stove. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* twice daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by offsets, Feb. to Ap.

Panicked Clematis (*Clematis paniculata*)—see *Clematis*.

Panicked-flowered Dog-wood (*Cornus paniculata*)—see *Cornus*.

Panicked Monk's-hood (*Aconitum paniculatum*)—see *Aconitum*.

Panicked Phlox (*Phlox paniculata*)—see *Phlox*.

Panicked White Alder (*Clethra paniculata*)—see *Clethra*.

Panicum (Panick Grass, Old Witch Grass, Millet Grass, Twiggy Panick Grass).—*Ord.* Gramminaceæ. Stove, hardy & half-hardy annual & perennial grasses. *Nat.* West Indies, Europe, Asia, N. America, Brazil. *Int.* 1758. *Ht.* 18 in. to 30 ft. *Species* cultivated, 1 stove perennial, 2 hardy annuals, 2 hardy perennials. *Inflorescence*, light, feathery, graceful. *Leaves*, green or variegated with white. **CULTURE OF STOVE SPECIES:** *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Syringe* daily, Mar. to Sept. *Water* copiously, Mar. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 60° to 75°; Sept. to Mar., 55° to 65°. **CULTURE OF HARDY ANNUALS:** *Soil*, ordinary.

Position, sunny borders. **Sow seeds** $\frac{1}{2}$ in. deep in patches where required to flower in Mar. or Ap. **Thin seedlings** when 1 in. high to 2 in. apart. **Gather inflorescences** in July or Aug. & dry for winter use. **CULTURE OF HARDY PERENNIALS**: *Soil*, good ordinary. *Position*, sunny borders. *Plant*, Oct. or Ap. *Lift*, divide & replant every 2 or 3 years. *Propagate* stove species by division; hardy kinds by seeds sown outdoors in Ap. or May, & by division of roots in Oct. or Mar.

Pansy (*Viola tricolor*)—see *Viola*.

Panther Lily (*Lilium pardalinum*)—see *Lilium*.

Papaver (Poppy, Alpine Poppy, Golden Poppy, Yellow Arctic Poppy, Oriental Poppy, Peony Poppy, White Poppy, Opium Poppy, Iceland Poppy, Shirley Poppy).—*Ord.* Papaveraceæ. Hardy annual & perennial herbs. *Nat.* Caucasus, India, Australia, Africa, Europe (England). *Int.* (foreign species) 1714. *Ht.* 1 to 4 ft. *Species* cultivated, 15 perennials, 19 annuals. *Flowers*, single & double, white, yellow, orange, red, scarlet, crimson, purple, black; May to Sept. **CULTURE OF ANNUAL SPECIES**: *Soil*, good ordinary. *Position*, sunny beds or borders. **Sow seeds** $\frac{1}{2}$ in. deep in patches where required to grow; in Ap. for flowering in sum.; Sept. for flowering in spring. **Thin seedlings** to 1 or 2 in. apart when $\frac{1}{2}$ in. high. **CULTURE OF PERENNIAL SPECIES**: *Soil*, deep sandy loam. *Position*, sunny borders for tall species as *P. orientalis*; rockeries for dwarf species as *P. alpinum* & *P. nudicaule*. *Plant*, Oct., Mar. or Ap. *Top-dress* with decayed manure in Mar. or Ap. *P. nudicaule* best raised from seeds annually. *Propagate* annual species by seeds as above; perennial species by seeds sown in sunny place outdoors in Mar. or Ap.; division of roots in Mar. or Ap.

Paper Mulberry (*Broussonetia papyrifera*)—see *Broussonetia*.

Paper Rush (*Papyrus antiquorum*)—see *Papyrus*.

Paper-seed (*Cyperus papyrus*)—see *Cyperus*.

Paper-white Daffodil (*Narcissus papyraceus*)—see *Narcissus*.

Paphinia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Trinidad, Brazil, Columbia. *Int.* 1843. *Ht.* 9 to 12 in. *Species* cultivated, 4. *Flowers*, white, purple, red, yellow; Nov. to June. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs immediately after flowering.

Papyrus (Paper Rush, Paper Reed).—*Ord.* Cyperaceæ. Stove ornamental sedge. *Nat.* Egypt. *Int.* 1803. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Foliage* & inflorescence in umbels on tall stems; dark green. *Compost*, two parts loam, one part leaf-mould & sand. *Position*, in pots immersed in tubs or tanks of water in shade. *Syringe* twice daily, Mar. to Oct.; once daily afterwards. *Repot* annually in Feb. or Mar. *Propagate* by division at potting time.

Paradise Apple (*Pyrus malus præcox*)—see *Pyrus*.

Parchment-bark (*Pittosporum crassifolium*)—see *Pittosporum*.

Pardanthus (Chinese Blackberry Lily, Leopard-flower).—*Ord.* Iridaceæ. Hardy tuberous-rooted perennials. *Nat.* China, Japan. *Int.* 1823. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, orange spotted with purple; June. **OUTDOOR CULTURE**: *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing tubers 4 in. deep & 2 in. apart. *Lift* & replant tubers annually. *Mulch* surface of bed in Mar. with cow manure. **POT CULTURE**: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4½ in. in diameter, well drained. *Place* five tubers 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time growth

begins until flowers fade, then gradually cease, keeping dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for tubers.

Paris (Four-leaved Grass, Herb Paris, One-berry, True-love).—*Ord.* Liliaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), Asia. *Int.* (foreign species) 1826. *Ht.* 6 in. to 2 ft. *Species* cultivated, 2. *Flowers*, green, yellow; Mar. to June. *Fruit*, scarlet or bluish black, borne in autn. *Soil*, sandy loam. *Position*, shady borders or margins of shrubberies. *Plant*, Oct. to Mar. *Propagate* by seeds sown in moist position outdoors in autn.; division of roots, Oct. or Mar.

Paris Daisy (*Chrysanthemum frutescens*)—see *Chrysanthemum*.

Parkinson's Chequered Meadow-Saffron (*Colchicum Parkinsoni*)—see *Colchicum*.

Park-leaves (*Hypericum Androsæum*)—see *Hypericum*.

Parlour Ivy (*Mikania scandens*)—see *Mikania*.

Parlour Palm (*Aspidistra lurida*)—see *Aspidistra*.

Parnassia (Grass of Parnassus).—*Ord.* Saxifragaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), Himalayas, N. America. *Int.* (foreign species) 1802. *Ht.* 6 in. *Species* cultivated, 6. *Flowers*, white, green, purple; May to Sept. *Soil*, peaty or boggy. *Position*, moist shady borders, bogs or margins of streams or ponds. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown in moist boggy peat in shady position outdoors in autn. or spring; division of roots in Mar. or Ap.

Parochetus (Blue-flowered Shamrock, Shamrock Pea).—*Ord.* Leguminosæ. Hardy trailing herbaceous perennial. *Nat.* Himalayas. *Int.* 1820. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, blue; Mar. to June. *Soil*, ordinary. *Position*, margins of sunny borders or on rockeries. *Plant*, Oct., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in cold frame in Mar.; division of plants in Mar.

Paronychia (Nail-wort, Whitlow-wort, Whitlow-grass).—*Ord.* Ilcebracæ. Dwarf-creeping perennial herbs. *Nat.* S. Europe. *Int.* 1879. *Ht.* 1 in. *Species* cultivated, 2. *Flowers*, white, surrounded by silvery bracts; sum. *Soil*, ordinary. *Position*, dry sunny banks or rockeries or for carpeting surfaces of beds. *Plant*, Mar. to June. *Propagate* by seeds sown in sunny spot outdoors in Mar. or Ap.; division of plants, Oct. or Mar.

Paroo Lily (*Dianella cærulea*)—see *Dianella*.

Parottia (Persian Iron-wood).—*Ord.* Hamamelidaceæ. Hardy deciduous trees & shrubs. *Orn. foliage.* *Nat.* Cashmir, Persia. *Int.* 1848. *Ht.* 6 to 10 feet. *Species* cultivated, 2. *Leaves*, ovate, green in sum., rich crimson with shades of orange & yellow in autn. *Soil*, good ordinary. *Position*, warm sheltered shrubberies, S. of England; against S. walls in colder districts. *Plant*, Oct. to Feb. *Prune* shoots of trees grown against walls to within an inch of base annually in Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in cold frame in autn. or spring; layering shoots in autn.

Parrot-beak-plant (*Olianthus puniceus*)—see *Olianthus*.

Parrot Tulip (*Tulipa Gesmeriana laciniata*)—see *Tulipa*.

Parrot's-bill of New Zealand (*Olianthus puniceus*)—see *Olianthus*.

Parrot's Plantain (*Heliconia psittacorum*)—see *Heliconia*.

Parry's Lily (*Lilium Parryi*)—see *Lilium*.

Parsley (*Petroselinum sativum*)—see *Petroselinum*.

Parsley Fern (*Allosorus crispus*)—see *Allosorus*.

Parsley-leaved Elder (*Sambucus nigra laciniata*)—see *Sambucus*.

Parsley-leaved Thorn (*Cratægus apiifolia*)—see *Cratægus*.

Peasanip (*Peucedanum sativum*)—see *Peucedanum*.

Parti-coloured Crocus (*Orocus versicolor*)—see *Crocus*.

Parti-coloured-flowered Sun-rose (*Helianthemum versicolor*)—see *Helianthemum*.

Partridge-berry (*Gaultheria procumbens*)—see *Gaultheria*.

Partridge-breast Aloe (*Aloe variegata*)—see *Aloe*.

Pascalina.—*Ord.* Compositæ. Hardy perennial herb. *Nat.* S. America. *Int.* 1799. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow; *July*. *Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.

Pasque-flower (*Anemone pulsatilla*)—see *Anemone*.

Passiflora (Passion Flower).—*Ord.* Passifloraceæ. Greenhouse & hardy climbing plants. *Nat.* Brazil, Peru, New Grenada, Australia, Mexico, W. Indies. *Int.* 1699. *Ht.* 10 to 30 ft. *Species* cultivated, about 100 stove; 2 hardy. *Flowers*, red, white, blue, scarlet, yellow, purple, crimson; nearly all the year round. *CULTURE OF STOVE SPECIES: Compost*, equal parts fibrous loam & peat, one fourth silver sand. *Pot*, Feb. or Mar. *Prune*, Feb., thinning out weak shoots & shortening strong ones one third. *Position*, well drained tubs or pots, or beds 18 in. deep & 2 ft. wide; shoots trained up rafters or walls; sunny. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Ap. to Sept. *Apply* stimulants occasionally to healthy plants when in flower only. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. *CULTURE OF HARDY SPECIES: Soil*, good ordinary, mixed with a little decayed manure. *Position*, south or south-west walls. *Plant*, Oct. or Mar. *Prune* in Feb., shortening small shoots to 3 & 6 in., & strong ones to 2 & 3 ft. *Water* freely in dry weather. *Apply* liquid manure to healthy plants once a month in sum. *Propagate* stove species by seeds sown $\frac{1}{2}$ in. deep in pots of sandy soil in temp. 65° to 75° at any time; by cuttings of young shoots 4 to 6 in. long inserted in sandy soil under bell-glass in temp. 65°, Ap. to Sept. Hardy species, by similar cuttings inserted in cold frame in sum.; lowering young shoots in sum.

Passion-flower (*Passiflora cærulea*)—see *Passiflora*.

Patience Dock (*Polygonum Bistorta*)—see *Polygonum*.

Patrinia.—*Ord.* Valerianaceæ. Hardy perennial herbs. *Nat.* Siberia. *Int.* 1761. *Ht.* 9 to 12 in. *Species* cultivated, 3. *Flowers*, yellow; fragrant; *May* to *July*. *Soil*, ordinary light rich. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep, in fine soil in sunny position outdoors in Mar. or Ap.

Patton's Californian Fir (*Abies Pattoni*)—see *Abies*.

Paullinia.—*Ord.* Sapindaceæ. Stove evergreen twining plants. *Nat.* South Sea Islands, Rio Janeiro. *Ht.* 5 to 10 ft. *Int.* 1816. *Species* cultivated, 2. *Flowers*, white, pale pink; *Oct.* *Leaves*, finely divided green, downy. *Compost*, two parts loam, two parts leaf-mould & sand. *Position*, well drained pots with shoots trained round wire trellis or up rafters of roof. *Pot*, Mar. *Prune* slightly in Jan. & Feb. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* twice daily, Mar. to Sept. *Propagate* by cuttings of firm shoots, 2 to 3 in. long inserted in small pots of sandy soil under bell-glass in temp. 75° to 85° any time.

Pau Wind-flower (*Anemone fulgens*)—see *Anemone*.

Paulownia.—*Ord.* Scrophulariaceæ. Hardy deciduous tree. *Orn.* foliage & flowering. *Nat.* Japan. *Int.* 1840. *Ht.* 15 to 30 ft. *Species* cultivated, 1. *Flowers*, violet; *June*. *Leaves*, large, soft & downy. *Soil*, sandy loam. *Position*, sunny sheltered shrubberies or lawns. *Plant*, Oct. to Feb. *Prune* shoots annually in Feb. to within two or three inches of their base if only foliage is desired; leave unpruned for flowering. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy loam in cold frame in spring or autumn; by cuttings of firm young shoots inserted in sandy soil in frame in sum.

Pavetta (Wild Jasmine).—*Ord.* Rubiaceæ. Stove evergreen shrubs.

Orn. foliage. *Nat.* Isle of Bourbon. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species* cultivated, 1. *Leaves*, oblong lance-shaped, dark olive green, spotted with white, salmon red mid-ribs. *Compost*, two parts good fibrous peat, one part fibrous loam & silver sand. *Position*, shady part of stove whilst growing, light situation when at rest. *Pot*, Feb. or Mar.; good drainage indispensable. *Prune* into shape in Feb. *Water* freely from Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Mar. to Aug. *Apply* liquid manure once or twice a week to healthy plants in flower. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted singly in small pots in sandy peat under bell-glass in temp. 75° to 85°, Mar. to May.

Pavia (Buck-eye).—*Ord.* Sapindaceæ. Hardy deciduous trees & shrubs. Flowering. *Nat.* California, N. America. *Int.* 1711. *Ht.* 3 to 20 ft. *Species* cultivated, 4. *Flowers*, white, rose, yellow, red; fragrant; May to June. *Soil*, ordinary, deep. *Position*, shrubberies, woods, lawns or parks. *Plant*, Oct. to Mar. *Prune* straggling shoots in Nov. *Propagate* by seeds sown 3 in. deep in open border, Mar.; layering, Feb.; grafting, Mar.; budding, July.

Pavonia.—*Ord.* Malvaceæ. Stove evergreen plants. *Nat.* New Grenada, Brazil. *Int.* 1778. *Ht.* 2 to 4 ft. *Species* cultivated, 3. *Flowers*, scarlet, yellow & purple; July to Sept. *Compost*, two parts loam, one part peat & sand. *Pot*, Mar. *Position*, pots in shade. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings inserted in fine sand under bell-glass in temp. 75° at any time.

Pea (*Pisum sativum*)—see *Pisum*.

Pea-fruited Japan Cypress (*Retinospora pisifera*)—see *Retinospora*.

Pea-tree (*Sesbania grandiflora*)—see *Sesbania*.

Peach (*Persica vulgaris*)—see *Persica*.

Peach Bells (*Campanula persicifolia*)—see *Campanula*.

Peach-coloured Trumpet-flower (*Solantra grandiflora*)—see *Solantra*.

Peach-leaved Bell-flower (*Campanula persicifolia*)—see *Campanula*.

Peach-leaved Cherry (*Cerasus persicifolia*)—see *Cerasus*.

Peacock Anemone (*Anemone pavonia*)—see *Anemone*.

Peacock-flower (*Poinciana pulcherrima*)—see *Poinciana*.

Peacock Iris (*Iris pavonia*)—see *Iris*.

Peacock Treasure-flower (*Guzmania pavonia*)—see *Guzmania*.

Pear (*Pyrus communis sativa*)—see *Pyrus*.

Pear-leaved Thorn (*Crataegus pyrifolia*)—see *Crataegus*.

Pearl Aloe (*Haworthia margaritifera*)—see *Haworthia*.

Pearl-bush (*Exochorda grandiflora*)—see *Exochorda*.

Pearl Cud-weed (*Antennaria margaritacea*)—see *Antennaria*.

Pearl-grass (*Briza maxima*)—see *Briza*.

Pearl-plant (*Lithospermum officinale*)—see *Lithospermum*.

Pearly Everlasting (*Antennaria margaritacea*)—see *Antennaria*.

Pectis.—*Ord.* Compositæ. Half-hardy annual. *Nat.* N. W. America. *Int.* 1865. *Ht.* 4 to 6 ft. *Species* cultivated, 1. *Flowers*, yellow; fragrant; June to Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Sow* seeds $\frac{1}{8}$ in. deep in light sandy soil in temp. 55° to 65° Mar., transplanting seedlings 3 in. apart in groups or lines outdoors in May or June.

Pelargonium (Fancy, Show, Zonal, Ivy, & Scented Pelargonium, Stork's Bill "Geranium").—*Ord.* Geraniaceæ. Greenhouse & hardy annual, biennial, herbaceous, evergreen, shrubby, & tuberous-rooted perennials. Flowering & orn. foliage. *Nat.* Cape of Good Hope, Canary Islands, Taurus,

Australia. *Int.* first species (*P. triste*) 1632; *P. zonale*, 1710; *P. inquinans*, 1714; *P. grandiflorum*, 1794; *P. peltatum*, 1701. *Ht.* 3 in. to 10 ft. *Species* cultivated, 2 annuals, 4 biennials, 23 greenhouse herbaceous, 1 hardy herbaceous, 80 tuberous-rooted, 151 evergreen shrubs; varieties innumerable. *Flowers*, various colours all the year round. **PARENTS OF CULTIVATED TYPES:** *P. zonale* & *P. inquinans* (*zonale*, bicolor & tricolor-leaved); *P. grandiflorum* & *P. cucullatum* (*show* & *fancy*); *P. peltatum*, *P. hederifolium*, & *P. lateripes* (*ivy-leaved*); *P. quercifolium*, *P. filicifolium*, *P. glutinosum*, *P. capitatum*, *P. crispum*, & *P. Radula* (*scented-leaved*); *P. tris'e*, etc. (*tuberous-rooted*). **CLASSIFICATION OF TYPES:** (1) **ZONAL.**—Leaves roundish, cordate, lobed, pubescent, green, with or without horse-shoe mark near margin of upper surface. *Sub-classes:* Bicolor.—Leaves green, edged with white, or white, edged with green. Tricolor.—Leaves green, white, yellow, & crimson. Bronze.—Yellow with bronze zone. (2) **SHOW:** Leaves palmately lobed, toothed margins, wrinkled, green; flowers large, with smooth or wrinkled edges. *Sub class:* Regal.—Flowers semi-double. (3) **FANCY:** Leaves similar to show kinds; flowers smaller, spotted or blotched. (4) **IVY-LEAVED:** Leaves ivy-shaped, fleshy, five angled, green or variegated; stems trailing or climbing. (5) **SCENTED-LEAVED:** Leaves, variously shaped; scented. **CULTURE.**—**ANNUAL SPECIES:** *Compost*, equal parts loam & leaf-mould, little sand. *Sow seeds* $\frac{1}{2}$ in. deep in shallow boxes or pans in temp. 60° to 70° in Mar. *Transplant* seedlings singly in 2-in. pots. *Transfer* to 4-in. pots in May. *Water* moderately. *Temp.*, Ap. to Sept., 50° to 60°. **BIENNIALS:** *Sow seeds* & treat as above. *Temp.*, Sept. to Mar., 45° to 55°. *Water* moderately in winter; freely afterwards. **GREENHOUSE HERBACEOUS:** *Compost*, two parts sandy loam, half a part well decayed manure, half a part leaf-mould, little sand. *Position*, pots in sunny light greenhouse. *Pot*, Mar. *Repot* annually. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants in sum. only. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. **HARDY HERBACEOUS:** (*P. Endlicherianum*).—*Soil*, sandy loam. *Position*, sunny well drained rockery or border. *Plant*, Mar. or Ap. *Protect* in winter with covering of cocoanut-fibre refuse. **GREENHOUSE TUBEROUS-ROOTED:** *Compost*, same as for greenhouse herbaceous kinds. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Repot* annually. *Water* freely, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. **GREENHOUSE EVERGREENS:** *Compost*, similar to greenhouse herbaceous. *Position*, light sunny greenhouse. *Pot*, Mar. *Prune* slightly after flowering. *Water* freely, Mar. to Sept.; moderately afterwards. *Apply* stimulants in sum. only. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. **ZONALS FOR SUMMER-FLOWERING:** *Insert* cuttings in Aug. or Sept. singly in 2-in. pots. *Place* in temp. 45° till Mar., then transfer to 4 in. size. *Nip* off point of main shoot in Feb. or Mar., also of side shoots when 2 or 3 in. long. *Transfer* to 6-in. pots when roots reach side of 5-in. sizes. *Pot* firmly. *Compost* for first potting, two parts yellow fibrous loam, half a part well decayed manure, half a part leaf-mould, one part coarse sand & tablespoonful of superphosphate, or a quarter of a pint of bone-meal to each bushel; for final potting, same proportion of loam, manure, & leaf mould, quarter part each of coarse sand & charcoal, tablespoonful of superphosphate or pint of bone meal to each bushel. *Remove* flower buds until fortnight after final potting. *Water* moderately first ten days after potting; freely afterwards. *Apply* stimulants month after final potting. *Shade* from sun when in bloom. *Temp.*, Aug. to Mar., 40° to 50°; Mar. to May, 55° to 60°; ordinary cool greenhouse or window afterwards. *After flowering*, shorten shoots & keep soil just moist, repotting following spring to make large plants. **ZONALS FOR WINTER FLOWERING:** *Insert* cuttings singly in 2-in. pots in Feb. or Mar. in temp. 55° to 65°. *Transfer* when well rooted into 4-in. & again into 6-in. in June. *Nip* off point of main shoot in Ap., & of side shoots in May or June. *Pinch* off flower buds appearing before Sept. *Stand* in sunny cold frame, or plunge to rim of pots in

cinder ashes in open position, June to Sept. *Remove* into greenhouse in Sept. *Water* freely outdoors, moderately indoors. *Apply* stimulants twice a week, June to Sept.; once a week afterwards. *Compost*, as above. *Temp.*, Sept. to Mar., 50° to 55°. *Dry* atmosphere essential to prevent damping of blooms. *After flowering*, shorten shoots, keep moderately moist, & repot. **ZONALS, BICOLORS, & TRICOLORS FOR BEDDING**: Insert cuttings in Aug. or Sept., several in 5-in. pots, or 2 in. apart in shallow boxes. Keep thus until Feb., then transfer singly to 3-in. pots, place in temp. 55° until Ap., then remove to cold frame, & plant outdoors in June. *Lift* plants in Sept., placing bicolors, tricolors, & bronzes singly in 3-in. pots; zonals singly in similar pots, three in a 4 or 5-in. pot, or a few inches apart in shallow boxes, & storing in temp., 40° to 45°, in greenhouse, room or cellar. **SPECIMEN ZONALS**: Insert cuttings in Aug. or Sept., grow in 2-in. pots until Mar., then transfer to 4-in. sizes. *Compost* as above. *Nip* off point of main shoot in Mar., also of side shoots when 3 in. long. Tie these firmly to wire fixed to rim of pot, & allow young shoots to form in centre. *Remove* all blooms first year. *Transfer* to 6 in. pot in May or June. *Grow* in greenhouse near glass. *Water* freely during sum.; moderately in winter. *Apply* stimulants, June to Sept. *Shorten* shoots two thirds in Jan. When new shoots form repot. *Nip* off points of shoots where necessary to ensure good shape. *Compost* as above. **STIMULANTS FOR ZONALS**: *Liquid* horse, cow, sheep or deer dung, diluted with two-thirds water, & applied twice a week in sum., once a week in winter; *nitrate of soda*, $\frac{1}{2}$ oz. to a gallon of water, applied once a week, when soil is moist only, for three or four weeks, then cease; *sulphate of ammonia*, same as nitrate of soda; *soot-water* (one peck each of sheep & cow dung, & $\frac{1}{2}$ peck of soot to 36 gall. of water), diluted with half water, applied twice a week; *Albert's manure*, $\frac{1}{2}$ oz. to gall. of water once a week; *Clay's fertilizer*, $\frac{1}{2}$ oz. to gall. of water applied once a week, or $\frac{1}{2}$ oz. sprinkled on surface of soil in 6-in. pot once a month. **SNOW AND FANCY**: Insert cuttings of firm shoots, 2 to 3 in. long, in July or Aug. singly in 2-in. pots in cold frame or greenhouse. Sandy soil. When rooted, transfer to 4-in. pots, & place on a shelf close to glass in temp. 45° to 50°. *Nip* off point of main shoot just before potting. When new shoots are 3 in. long, nip off points. *Transfer* to 5-in. pots in Jan. Keep near glass. When flowers show apply liquid manure twice a week. *Water* moderately until Mar., then freely until June, when give less. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to May, 50° to 55°. *After flowering*, stand in sunny place outdoors. *Prune* shoots to within 1 in. of base in July. When new shoots form, turn plants out of pots, remove loose soil, & repot in 4 or 5-in. pots. *Replace* in greenhouse in Sept. *Transfer* to 6 or 8-in. pots in Dec. or Jan. *Compost*, three parts good fibrous loam, one part decayed horse or cow dung, half a part coarse sand, & a tablespoonful of superphosphate to each bushel. Good drainage & firm potting essential. Stimulants as above. **IVY-LEAVED**: Insert cuttings singly in 2-in. pots, or three or four in a 4-in. pot in Aug. or Sept. Grow in greenhouse near glass until Feb. or Mar., then transfer to 4-in. pots. *Nip* off points of main shoots in Feb. or Mar. *Repot* in 5-in. pots in Ap. or May. *Train* shoots to stakes or place plants in suspended baskets, & let them droop over sides. *Water* moderately, Sept. to Ap.; freely, Ap. to Sept. *Apply* stimulants, May to Sept. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 50° to 60°. *Plant* outdoors, June. *Prune* old plants, Feb. or Mar. *Compost* & stimulants same as for zonals. **SCENTED-LEAVED**: *Compost*: two parts loam, half a part each of decayed manure & leaf-mould, quarter part sand. *Pot*, & treat as advised for sum.-flowering zonals. *Propagate* by seeds sown $\frac{3}{4}$ in. deep in a well drained pot or pan, filled with light sandy soil, in temp. 55° to 65°, Feb. to Ap.; cuttings inserted as above directed in each section; grafting on common kinds in close frame or under bell-glass in temp. 55° to 60° in spring; tuberous-rooted kinds by division in spring.

Pedicularis (Louse-wort).—*Ord.* Scrophulariaceæ. Hardy & half-hardy perennial herbs. *Nat.* Britain, Switzerland, Austria, Italy, Siberia,

Turkestan, Nepaul, N. America. *Int.* (foreign species) 1775. *Ht.* 6 to 12 in. *Species* cultivated, 18 hardy, 15 half-hardy. *Flowers*, red, yellow, pink, purple, crimson, scarlet, rose; May to Aug. **CULTURE OF HARDY SPECIES:** *Soil*, moist peaty. *Position*, open moist borders or rockeries. *Plant*, Oct. or Mar. **CULTURE OF HALF-HARDY SPECIES:** *Soil*, two parts peat, one of leaf-mould & sand. *Position*, well drained pots or pans in cold frames, Oct. to May; open moist borders outdoors, May to Oct. *Water* occasionally in cold frames, freely outdoors in dry weather. *Propagate* hardy species by seeds sown $\frac{1}{2}$ in. deep in patches outdoors in Ap. where plants are required to flower, afterwards thinning seedlings to 3 or 4 inches apart; half-hardy species by seeds sown $\frac{1}{2}$ in. deep in well drained pans or shallow boxes, filled with sandy peat, & placed in temp. 65° in Mar., transplanting seedlings outdoors, May or June. *All* species of this genus are short lived, hence a succession of young plants must be maintained.

Pedilanthus (Shipper Spurge, Jew-bush). — *Ord.* Euphorbiaceæ. Stove succulent flowering shrub. *Nat. W. Indies.* *Int.* 1874. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, red, purple; June to Aug. *Compost*, two parts sandy loam, one part brick rubbish, half a part decayed cow manure & silver sand. *Pot*, Mar. or Ap. *Position*, dry sunny part of stove. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 60° to 80°. *Water* once in three weeks from Sept. to Mar.; once a week afterwards. No syringing or stimulants required. *Propagate* by cuttings of shoots, 2 to 3 in. long, exposed to sun for one or two days, then inserted singly in sand in 2-in. pots, & placed on a shelf near the glass, any time during sun.

Pee-put-tree (*Ficus religiosa*)—see *Ficus*.

Peerless Daffodil (*Narcissus incomparabilis*)—see *Narcissus*.

Peg-wood (*Cornus sanguinea* & *Euonymus europæus*)—see *Cornus* & *Euonymus*.

Pelecypophora (Hatchet Cactus).—*Ord.* Cactaceæ. Greenhouse succulent perennial. *Nat. Mexico.* *Int.* 1813. *Ht.* 4 in. *Species* cultivated, 1; variety 1. *Flowers*, white, rose, purple; June to Aug. *Compost*, equal parts sandy loam, rough old mortar & pounded bricks. *Position*, sunny airy greenhouse or windows. *Pot*, Mar. or Ap. in well drained pots just large enough to accommodate roots. *Repot* every third or fourth year only. *Water* moderately, Mar. to Sept.; once a fortnight, Sept. to Dec.; none afterwards. *Syringe* on evenings of warm days, June to Sept. *Apply* soft water to healthy plants, June to Sept. *Ventilate* freely in sun. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans or pots of sandy soil in temp. 75° in Mar., keeping soil moderately moist; by cuttings of the tops of the plants inserted in small pots of sandy gritty compost in spring.

Pelexia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat. Tropical America.* *Int.* 1823. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, green, white; Sept. to June. *Compost*, two parts fibrous peat, one part loam & sand. *Position*, well drained pots or shallow pans in shady part of stove. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept.; moderately other times. *Temp.*, 65° to 75°, Mar. to Sept.; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of shoots removed with roots attached, inserted singly in small pots of peaty compost under bell-glass in temp. 45° to 55° in spring.

Pelican-flower (*Aristolochia grandiflora*)—see *Aristolochia*.

Pellæa (Cliff Brake-Fern).—*Ord.* Filices. Greenhouse evergreen & deciduous ferns. *Nat. Tropical & N. America, S. Africa.* *Int.* 1770. *Ht.* 3 to 12 in. *Species* cultivated, 15. *Fronds*, hand-shaped or once or twice divided; green. *Compost*, equal parts loam, leaf-mould, peat & sand, with a little charcoal & sandstone. *Pot* or plant, Mar. *Position*, well drained pots in shady part of greenhouse or in beds or rockeries in shade. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 60° to 65°. *P. atropurpurea* & *P. gracilis*

are sufficiently hardy to grow outdoors in sheltered rockeries if protected with litter or hand-light in winter. *Propagate* by spores sown on surface of sandy peat in shallow pan in temp. 70° to 80°, any time; division of plants in Feb. to Ap.

Pellionia.—*Ord.* Urticaceæ. Stove creeping herb. *Orn. foliage.* *Nat.* Cochín China. *Int.* 1880. *Ht.* 2 ft. *Species* cultivated, 2; variety 1. *Leaves*, roundish, oval or heart-shaped; olive-green with violet & white markings. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Pot* or plant, *Mar.* or *Ap.* *Position*, shallow pans or on surface of beds or rockeries or under staging. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Sept. to Ap., 55° to 65°; Ap. to Sept., 65° to 75°. *Propagate* by cuttings of creeping shoots inserted in sandy soil in small pots under bell-glass in temp. 70° to 85° in spring; division of plants in *Mar.* or *Ap.*

Pellitory (*Pyrethrum Parthenium*)—see *Pyrethrum*.

Peltandra (Arrow-Arums).—*Ord.* Aroideæ. Hardy perennial herb. *Orn. foliage.* *Nat.* N. E. America. *Int.* 1759. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Leaves*, spear head shaped, broad, deep green. *Soil*, rich, boggy or muddy. *Position*, moist bog or shallow pond. *Plant*, *Mar.* or *Ap.*, enclosing roots & small quantity of soil in piece of canvas or sacking & drop the whole into the water. *Propagate* by inserting portions of creeping stems in muddy soil in ponds where required to grow.

Peltaria.—*Ord.* Crucifereæ. Hardy herbaceous perennial herb. *Nat.* E. Europe. *Int.* 1601. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, white; June. *Plant*, garlic-scented. *Soil*, ordinary. *Position*, sunny borders, beds or rockeries. *Plant*, Oct., *Mar.* or *Ap.* *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors, *Mar.* or *Ap.*, where plants are required to grow; division of plants in *Mar.* or *Ap.*

Pelu-tree (*Sophora tetralpura*)—see *Sophora*.

Penang Lawyers (*Licuala acutifolia*)—see *Licuala*.

Pendulous Catch-fly (*Silene pendula*)—see *Silene*.

Pendulous Sedge (*Carex pendula*)—see *Carex*.

Penguin-plant (*Bromelia Pinguin*)—see *Bromelia*.

Pennisetum.—*Ord.* Graminaceæ. Hardy perennial grasses. Flowering & orn. foliage. *Nat.* Monte Video, Abyssinia. *Int.* date unknown. *Ht.* *P. longistylum*, 12 to 18 in.; *P. latifolium*, 9 to 10 ft. *Species* cultivated, 2. *Inflorescence* of *P. longistylum* borne in twisted spikes, purplish; Aug. *Leaves* of *P. latifolium*, lance-shaped, bright green with white veins. *Culture* of *P. latifolium*: *Soil*, sandy loam. *Position*, sheltered well drained borders in warm parts of the kingdom only. *Plant*, *Ap.* *Protect* in severe weather with covering of mats, or lift in Nov., place in large pots or tubs & remove to greenhouse, replanting outdoors in *Ap.* or *May*. *Culture* of *P. longistylum*: *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds $\frac{1}{4}$ in. deep in patches a foot or more in diameter in *Mar.* or *Ap.*, where plants are to flower. *Gather* inflorescence for winter use, end of July. *This* species is best treated as an annual. *Propagate* *P. latifolium* by seed sown $\frac{1}{4}$ in. deep in sandy soil in shallow boxes or pans in temp. 60° to 65°, *Mar.* or *Ap.*, transplanting seedlings outdoors in *May* or *June*; division of root in *Ap.*

Pennsylvanian Catch-fly (*Silene pennsylvanica*)—see *Silene*.

Penny-leaf (*Linaria cymbalaria*)—see *Linaria*.

Penny Royal (*Mentha pulegium*)—see *Mentha*.

Penny-royal Oil-larch (*Mentha pulegium*)—see *Mentha*.

Penny-wort (*Linaria cymbalaria*)—see *Linaria*.

Pentas.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* S. Africa. *Int.* 1842. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, pink, crimson, rose; winter. *Compost*, equal parts fibrous peat & leaf-mould, half part each light loam & sand. *Pot*, Feb. to *Ap.* *Position*, well drained pots in light part of stove. *Water* moderately, Sept. to *Ap.*; freely at other

times. *Syringe* daily, Ap. to Sept. *Prune* plants into shape immediately after flowering. *Nip* off points of young shoots occasionally during May, June, & July to induce bushy habit of growth. *Temp.*, Sept. to Ap., 50° to 60°; Ap. to Sept., 60° to 75°. *Propagate* by cuttings of young shoots, 2 to 3 in. long inserted singly in 2-in. pots filled with sandy compost & placed under bell-glass in temp. of 75° spring or sum.

Pentstemon (Beard Tongue).—*Ord.* Scrophulariaceæ. Hardy & half-hardy herbaceous perennials. *Nat.* Mexico, Texas, California, N. America. *Int.* 1794. *Ht.* 6 in. to 3 ft. *Species* cultivated, 14 half hardy, 53 hardy. *Flowers*, blue, white, crimson, purple, lilac, rose, scarlet, red, orange; May to Oct. *CULTURE OF HALF-HARDY SPECIES: Soil*, ordinary sandy. *Position*, well drained sunny borders or rockeries. *Plant*, Ap. *Insert* cuttings in well drained pots of sandy soil in Aug., & preserve in cold frame or greenhouse during winter. *CULTURE OF HARDY SPECIES AND HYBRIDS: Soil*, two parts rich loam, one part decayed manure or leaf mould. *Plant*, Mar. or Ap. *Position*, sunny beds or borders, well drained. *Apply* stimulants once or twice a week in sum. *Suitable stimulants*: Liquid cow or horse manure; superphosphate at the rate of a tablespoonful to each plant forked into surface of soil in May; nitrate of soda $\frac{1}{2}$ oz. to a gall. of water once a week; Peruvian guano $\frac{1}{2}$ oz. to gull. of water twice a week. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in a well drained pot or pan of light soil in temp. 55° to 65° in Feb. or Mar., transplanting seedlings outdoors in May; cuttings of young shoots 3 in. long inserted in sandy soil in boxes or a bed under hand-light, or in cold frame in Aug., allowing them to remain there until Ap.; division in Ap.

Peony (*Pæonia officinalis*)—see *Pæonia*.

Peperomia (Pepper-Elder).—*Ord.* Piperacææ. Stove herbaceous perennials; creeping & erect; orn. foliage. *Nat.* Mexico, W. Indies, New Grenada, Peru, Ecuador. *Int.* 1815. *Ht.* 3 to 15 in. *Species* cultivated, about 19. *Leaves*, roundish or egg-shaped; green, variegated with white. *Compost*, equal parts fibrous loam & peat with half a part sand. *Pol.*, Mar. or Ap. *Position*, small well drained pots for erect species, shallow pans or beds for creeping species. *Shade* from sun. *Water* moderately in winter; freely in sum. *Syringe* daily, Ap. to Sept. *Temp.*, Ap. to Sept., 60° to 75°; Sept. to Ap., 55° to 65°. *Propagate* by cuttings of shoots or single joints with leaf attached inserted in sandy peat & plunged in bottom heat in temp. 65° to 75° in spring.

Pepper-bush (*Andromeda racemosa*)—see *Andromeda*.

Peppermint (*Mentha piperita*)—see *Mentha*.

Pepper-wort (*Lepidium latifolium*)—see *Lepidium*.

Perennial Flax (*Linum perenne*)—see *Linum*.

Perennial Goose-foot (*Chenopodium Bonus-Henricus*)—see *Chenopodium*.

Perennial Honesty (*Lunaria rediviva*)—see *Lunaria*.

Perennial Lettuce (*Lactuca perennis*)—see *Lactuca*.

Perennial Sunflower (*Helianthus multiflorus*)—see *Helianthus*.

Pereskia (Barbadoes Gooseberry).—*Ord.* Cactacææ. Stove succulent perennials. *Nat.* W. Indies, Brazil, Mexico. *Int.* 1696. *Ht.* 3 to 15 ft. *Species* cultivated, 3. *Flowers*, white, red, purple; Oct. to June. *Compost*, equal parts loam, peat & leaf-mould, one fourth sand. *Pol.*, Mar. *Position*, small well drained pots in light dry part of stove, or in beds with shoots trained to dry wall. *Water* moderately, Sept. to Ap.; freely afterwards. *Temp.*, Sept. to Mar., 50° to 60°; Mar. to Sept., 65° to 75°. *P. aculeata* & *P. Bleo* grown chiefly for stocks for grafting epiphyllums on. *Propagate* by cuttings of stem inserted singly in 2-in. pots filled with sandy soil & placed on a light dry shelf in temp. 65° to 75° in spring. Allow one shoot only to grow for forming a stock, & train this to a stake fixed in soil until high enough, then graft.

Perfoliate Honeysuckle (*Lonicera caprifolium*)—see *Lonicera*.

Perfoliate St. John's Wort (*Hypericum perfoliatum*)—see *Hypericum*.

Perfumed Cherry (*Cerasus Mahaleb*)—see *Cerasus*.

Perilla.—*Ord.* Labiatæ. Half-hardy orn.-foliated annual. *Nat.* India, China. *Int.* 1770. *Ht.* 1 to 3 ft. *Species* cultivated, 1; variety, 1. *Leaves*, egg-shaped, pointed; green or dark bronzy purple, with flimbriated edges. *Sow seeds* $\frac{1}{8}$ in. deep in shallow boxes or pans filled with ordinary light soil placed in temp. of 65° to 75° in Feb. or Mar. *Transplant* seedlings when three leaves have formed singly into 2-in. pots, or 2 inches apart in shallow boxes. Keep in temp. 55° to 65° till May, then transfer to cold frame; gradually harden off & plant outdoors in June. *Adapted* for masses in borders or for lines in, or edgings to, beds.

Periploca (Climbing Dog's-bone, Milk-vine, Silk-vine, Syrian Silk-plant, Virginian Silk).—*Ord.* Asclepiadacæ. Hardy deciduous twiner. *Nat.* S. E. Europe. *Int.* 1597. *Ht.* 7 to 16 ft. *Species* cultivated, 1. *Flowers*, green, brown; July. *Soil*, ordinary. *Position*, walls, harbours, summer-house or trellises in any aspect. *Plant*, Oct., Nov., Feb. or Mar. *Prune* away very weak or old distorted shoots only in Mar. *Apply* liquid manure occasionally during the flowering season. *Propagate* by cuttings inserted under bell-glass or hand light outdoors, July to Oct.; layering shoots, Sept. or Oct.

Peppermint Thyme (*Thymus piperella*)—see *Thymus*.

Peristeria (Dove-Flower, Dove-Orchid).—*Ord.* Orchidacæ. Stove evergreen orchids. *Nat.* Central America, Demarara. *Int.* 1826. *Ht.* 1 to 5 ft. *Species* cultivated, 4. *Flowers*, yellow, white, lilac, red; fragrant; June to Sept. *Compost*, equal parts loam, leaf-mould & fine crocks. *Pot*, Mar. or when new growth begins. *Position*, well drained pots or teak baskets. *Water* freely Ap. to Sept.; keep nearly dry afterwards. *Temp.*, Oct. to Ap., 60° to 65°; Ap. to Oct., 65° to 75°. *Apply* weak stimulants occasionally when plants are growing freely. *Growing period*, Mar. to Oct. *Resting period*, Oct. to Mar. *Propagate* by division of pseudo bulbs, Mar.

Periwinkle (*Vinca minor*)—see *Vinca*.

Pernettya (Prickly Heath).—*Ord.* Ericacæ. Hardy evergreen berry-bearing shrubs. *Nat.* Mexico, Valdivia, Magellan Straits. *Int.* 1825. *Ht.* 2 to 6 ft. *Species* cultivated, 10. *Flowers*, white; Ap. to June. *Berries*, crimson, blue, black, rose, cream; autn. **OUTDOOR CULTURE:** *Soil*, peaty. *Position*, moist rockeries or margins of open or shady shrubberies & beds. *Plant*, Sept. to Nov., or Mar. to May. **POT CULTURE:** *Compost*, two parts peat, one part leaf-mould and sand. *Position*, cool or cold greenhouses, or dwelling rooms. *Pot*, Oct. or Nov. *Water* moderately. *When* berries shrivel or fall off, plants no further use for pot culture; plant outdoors. **WINDOW BOXES:** *Soil*, ordinary. *Position*, sunny or shady. *Plant*, Sept. to Jan. *Remove* when berries shrivel. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in bed of peaty soil outdoors in autn.; layering shoots in Mar. or Ap.

Persian Asafoetida Plant (*Ferula persica*)—see *Ferula*.

Persian Cyclamen (*Cyclamen persicum*)—see *Cyclamen*.

Persian Lilac (*Syringa persica*)—see *Syringa*.

Persian Lily (*Fritillaria persica*)—see *Fritillaria*.

Persian Stock (*Mathiola odoratissima*)—see *Mathiola*.

Persian Tulip (*Tulipa persica*)—see *Tulipa*.

Persica (Peach & Nectarine).—*Ord.* Rosacæ. Hardy deciduous fruit-bearing & flowering trees. *Nat.* (peach & nectarine) Eastern Asia; (flowering peach) China. *Int.* 1562. *Ht.* 10 to 15 ft. *Species* cultivated, 2; varieties many. *Flowers*, single and double; rose, white, & crimson; spring. *Fruit* of peach large & downy; nectarine small or medium, smooth. **CULTURE OF FLOWERING PEACH** (*P. Davidiana*): *Soil*, ordinary well drained, no manure except as a

mulch. *Position*, against south or west walls, or as standards, S. of England. *Plant*, Oct. to Feb. *Prune*, Feb., thinning out weak shoots only. *Disbud* shoots on trees growing against walls in June. *POT CULTURE*: *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, Oct. to Dec. *Place* in temp. 55° to 65° in Nov. to flower early; in cold greenhouse in Oct. to flower in spring. *Stand* in sunny spot outdoors, May to Oct. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally in spring & sum. *CULTURE OF PEACH AND NECTARINE*: *Soil*, deep, but not over-rich sandy loam, well drained, & free from manure. *Position*, south or south-west walls, fully exposed to sun. *Plant*, Oct. to Feb. *Distances for planting*: Cordons, 18 in.; dwarf fan-trained, 15 ft.; standard fan-trained, 15 ft. *Depth of soil above roots*, 4 to 6 in. *Approximate cost of trees, each*: cordons, 1s. 6d.; dwarf fan, 3s. 6d.; half & full standard fans, 7s. 6d. *Prune*, Jan. or Feb. *Fruit* borne on old spurs & shoots of previous years' growth. Do not shorten the latter unless very strong. Always cut back if possible to a triple bud. *Train* previous year's shoots 2 to 3 in. apart all over tree. Remove a small proportion of shoots that have borne fruit annually to make room for new ones. *Fruit buds*, conical, downy. *Wood buds*, pointed, narrow. *Disbud*, i.e., rub off young shoots, Ap., May, & June, removing those growing out of front of branches, & reducing those issuing from the sides of previous year's shoots to 6 in. apart each side. *Train* young shoots when 3 to 6 in. long to the wall. *Protect* blossoms from frost by covering of tiffany or fish netting in Feb. & Mar. *Thin* fruit when size of a hazel nut to 3 or 4 in. apart; again when size of a walnut to 10 & 12 in. apart. *Average number of fruit for a full-grown tree to carry*: about 240. *Mulch* with decayed manure in Mar. or Ap. *Apply* stimulants occasionally, Ap. to Aug. *Suitable artificial manures*: (1) 1½ oz. salt & 3 oz. soot per square yard, applied in Mar.; (2) 1 part (by weight) crude magnesium sulphate, 6 parts muriate of potash, 18 parts bone superphosphate forked into the soil at the rate of 7 lb. per tree after pruning; (3) ½ lb. kainit, ½ lb. each of superphosphate & nitrate of soda, 1½ lb. salt, applied as advised for No. 2. *Liquid manures*: nitrate of soda ½ oz. to gallon; guano 1 oz. to gallon; horse & cow manure diluted one third—all applied in spring & sum. *UNDER GLASS*: *Soil*, planting, pruning, manuring, same as for outdoors. *Temp. for forcing*: Jan. 40° to 50°; Feb. 45° to 55°; Mar. & onwards, 55° to 65°. *Disbud* when shoots are an inch or so long. *Syringe* twice daily until blossoms open, then cease; commencing again when fruit forms, & discontinuing when it begins to ripen. *Ventilate* freely in sum. *Thin* the fruit when the size of a hazel nut to 3 or 4 in. apart; & again when as large as a walnut to a foot apart. *Water* border thoroughly in Jan. or Feb., again in Mar., May, July, & Sept. *Apply* stimulants, Mar., May, July, & Sept. *TREES IN POTS*: *Compost*, two parts decayed turf peat, one part well decayed manure, a quarter part crushed bones, & a tablespoonful of superphosphate to each bushel. *Pot*, Nov. *Stand* the trees in a sheltered corner till Jan., when remove to greenhouse. *Water* moderately at first, freely in spring & sum., none in winter. *Pruning*, manuring, etc., as advised above. *DOUBLE-FLOWERED PEACH*: *Soil*, ordinary. *Position*, open, sunny shrubberies or borders. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb., thinning out over-crowded branches only. *Varieties cultivated*, Common Double (*P. vulgaris flore pleno*); Double White (*P. v. fl. pl. albo*); Double Crimson (*P. v. fl. pl. sanguinea*); Carnation Flowered (*P. v. fl. pl. caryophylliflora*). *Propagate* by seeds sown 2 in. deep outdoors in sum. or autn.; by budding on the mussel or white pear plum in July; grafting in Mar.

Peruvian Begonia (*Begonia peruviana*)—see Begonia.

Peruvian Cotton-plant (*Gossypium peruvianum*)—see Gossypium.

Peruvian Daffodil (*Ismene Amancœs*)—see Ismene.

Peruvian Heliotrope (*Heliotropium peruvianum*)—see Heliotropium.

Peruvian Nasturtium (*Tropæolum tuberosum*)—see Tropæolum.

Peruvian Swamp Lily (*Zephyranthes candida*)—see Zephyranthes.

Peruvian Trumpet-flower (*Brugmansia suaveolens*)—see *Brugmansia*.

Petasites (Winter Heliotrope, Butter Burr, Bog Rhubarb).—*Ord.* Compositæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Arctic Regions. *Int.* (foreign species) 1713. *Ht.* 6 to 18 in. *Species* cultivated, 4. *Flowers*, white, pink; fragrant; Feb. to May. *Leaves*, kidney or heart-shaped, large, downy beneath, green. *Soil*, ordinary. *Position*, shrubberies or woodland, partially shaded, for *P. fragrans* & *P. frigida*; margins of streams & ponds for *P. nivena* & *P. vulgaris*. *Plant*, Oct. or Nov. *Propagate* by division, Oct. or Nov.

Petrea (Purple Wreath).—*Ord.* Verbenacæ. Stove-flowering climber; deciduous. *Nat.* Brazil. *Int.* 1733. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, purple; May to Aug. *Compost*, equal parts loam, leaf-mould, peat, & sand; little charcoal. *Position*, well drained pot, bed, or border, with shoots trained up rafters or trellis in shady part of stove. *Pot* or plant, Feb. or Mar. *Prune* slightly, Feb. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 60°. *Propagate* by cuttings of firm young shoots inserted in sandy soil in well drained pot under bell-glass in temp. 65° to 75°, spring & sum.

Petrocallis (Rock Beauty).—*Ord.* Cruciferæ. Hardy perennial herb. *Nat.* Alps & Pyrenees. *Int.*, date unknown. *Ht.* 2 to 3 in. *Species* cultivated, 1. *Flowers*, white, purple; May to June. *Soil*, moist sandy loam. *Position*, crevices or chinks of sunny rockery. *Plant*, Mar. or Ap. *Propagate* by seeds sown in Ap. where plants are to grow; division of roots in Mar.

Petroselinum (Parsley).—*Ord.* Umbelliferæ. Hardy biennial culinary herb. *Nat.* Sardinia. *Int.* 1548. *Ht.* foliage 4 to 6 in.; flower stem 2 ft. *Species* cultivated, 1; varieties many. *Leaves*, plain or curled; green. *Soil*, ordinary, deep, rich, moist; light soil not suitable. *Position*, partially shady; as edgings to borders, or in rows. *Sow* in Feb., May, and July in drills $\frac{1}{2}$ in. deep & 12 in. apart. *Thin* seedlings when 1 in. high to 3 in. apart, & later on to 8 in. apart. *Thinnings* may be replanted to form a fresh bed if desired. When leaves become coarse cut them all off to induce fresh growth. *Renew* beds every second year. *Suitable artificial manures*, $2\frac{1}{2}$ oz. superphosphate per square yard before sowing; $2\frac{1}{2}$ oz. nitrate of soda forked in when the plants are thinned; 1 oz. superphosphate, $\frac{1}{2}$ oz. nitrate of soda, $\frac{1}{4}$ oz. iron sulphate, to a gallon of water, applied in sum. (Griffiths). *Propagate* as above. *Seed* retains its vegetative power 3 years. *Quantity* required for a row 50 ft. long, 1 oz.

Pettigree Shrub (*Ruscus aculeatus*)—see *Ruscus*.

Petunia.—*Ord.* Solanacæ. Half-hardy herbaceous perennials. *Nat.* Buenos Ayres, S. America. *Int.* 1823. *Ht.* 1 to 3 ft. *Species* cultivated, about 7; varieties numerous. *Flowers*, various; spring & sum. *P. nyctaginia-flora* & *P. violacea* are the parents of the present race of single & double kinds. **INDOOR CULTURE**: *Compost*, two parts decayed turfy loam, one part well rotted manure, quarter part silver sand. *Position*, sunny greenhouse or window. *Shade* only from bright sun. *Pot*, Feb. to June, moderately firm. *Size* of pots, 3, 5, & 6 in. *Pinch* out point of young shoots occasionally in spring to induce bushy growth. *Prune* shoots of old plants moderately close in Feb. or Mar. *Water* moderately, Sept. to Ap.; freely afterwards. *No syringing* required. *Apply* stimulants to established plants when flower buds form. *Train* shoots to stakes. *Suitable liquid manures*: $\frac{1}{4}$ oz. nitrate of soda or sulphate of ammonia to 1 gallon of water, applied three or four successive times only; $\frac{1}{4}$ oz. guano to a gallon of water applied twice a week; one fourth liquid cow, horse, sheep, or deer dung to three fourths water applied as advised for guano. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. **OUTDOOR CULTURE**: *Soil*, ordinary rich. *Position*, sunny beds, borders, vases, or trellises. *Plant*, June. *Lift*, Sept., & store in pots in greenhouse to

furnish cuttings in spring. *Water* freely in dry weather. *Place* in cold frame in May to harden before planting out. *Apply* stimulants as above. *Propagate* by seeds sown on surface of a compost of equal parts good soil, leaf-mould & sand in a well-drained pot or pan, in temp. 65° to 75° in Feb., Mar., or Ap.; by cuttings of young shoots inserted in light sandy soil in pots, pans, or boxes in temp. 55° to 65° any time in spring.

Peucedanum (Parsnip).—*Ord.* Umbelliferae. Hardy biennial esculent-rooted vegetable. *Nat.* England. *Species* cultivated, 1; varieties several. *Flowers*, yellow; July & Aug. *Soil*, rich ordinary, previously trenched three spits deep, & not recently manured. *Position*, open & sunny. **FIRST METHOD:** *Draw* drills 1 in. deep & 15 in. apart. *Sow* seeds in groups of three or four 12 in. apart, Mar. or Ap. *Thin* seedlings when 2 in. high to one in each group. **SECOND METHOD:** *Dig* out a trench 30 in. wide, 18 in. deep. *Put* 3 in. decayed manure in bottom, then 6 in. of soil mixed with a little manure, & fill up with fine friable soil. *Sow* two or three seeds in groups a foot apart down centre of the trench. *Reduce* the seedlings when 2 in. high to one in each group. **THIRD METHOD:** *Make* holes 3 ft. deep, 8 in. in diameter at top & 15 in. apart each way. *Fill* the lower six inches of the hole with a compost of fine soil, decayed manure, & a pinch of superphosphate. The remaining space fill with similar material, but with the addition of soot & a pinch of salt. *Sow* the seeds in groups of three or four, & thin to one plant when 2 in. high. *Suitable artificial manures*: (1) 1 lb. salt, 1½ lbs. nitrate of soda, 3½ lbs. superphosphate, 1½ lbs. kainit, half to be applied to a square rod before sowing, & remainder when plants are thinned; (2) 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. guano per square rod, to be applied like No. 1 (Griffiths). *Lift* & store roots only in event of bad weather; they retain their flavour better lifted as wanted from the ground. Some authorities give the generic name as *Pastinacea*. *Seed* retains its vegetative powers for one year only. *Quantity* required for a row 50 ft. long, 1 oz.

Phacelia.—*Ord.* Hydrophyllaceae. Hardy annual & perennial herbs. Flowering. *Nat.* Texas, California, N. W. America. *Int.* 1826. *Ht.* 3 in. to 2 ft. *Species* cultivated, 12 annuals, 5 perennials. *Flowers*, blue, violet, purple, white, yellow, brown, rose; May to Aug. *Soil*, ordinary rich. *Position*, sunny or partially shaded beds or borders. *Sow* seeds of annual species in patches or lines where required to grow in Ap. *Thin* seedlings 2 to 3 in. apart in June. *Plant* perennial species, Oct. to Ap. *Mulch* with decayed manure, Ap. *Propagate* annual species by seed as above; perennial species by seeds sown 3 in. deep outdoors in Ap., transplanting seedlings 6 in. apart in a nursery bed, May or June, transplanting to flowering position, Oct. or Nov.; division of roots, Oct. or Ap.

Phænocoma.—*Ord.* Compositae. Greenhouse evergreen flowering shrub. *Nat.* Cape of Good Hope. *Int.* 1789. *Ht.* 3 to 4 ft. *Species* cultivated, 1; varieties, 1. *Flowers*, crimson; May to Sept. *Compost*, two parts good brown fibrous peat, one part silver sand & little charcoal. *Position*, well drained pots in light part of greenhouse; no shade. *Pot*, Mar. or Ap. *Firm* potting most essential. *Prune* straggling shoots only, moderately in Feb. or Mar. *Water* moderately, Sept. to Ap.; freely afterwards. *No* syringing required. *Admit* air freely in sum. *Shoots* can be trained round stakes or trellis. *Propagate* by cuttings of firm young side shoots, inserted in well drained pots of sandy peat under bell-glass in temp. of 55° to 65°, sum.

Phædranassa (Queen Lily).—*Ord.* Amaryllidaceae. Warm & cool greenhouse flowering bulbous plants. *Nat.* Costa Rica, Ecuador, Columbia, The Andes. *Int.* 1800. *Species* cultivated, 8; varieties, 1. *Flowers*, crimson, red, scarlet, green, yellow; Mar. to Oct. *Compost*, two parts sandy loam, one part leaf-mould & half a part sand. *Position*, well drained pots near the glass, Mar. to Oct.; in dry place under stage, Oct. to Mar. *Pot*, Feb. or Mar. *Water* moderately, Mar. to May; freely, May to Oct.; keep nearly dry, Oct. to Mar. *Apply* stimulants, May to Aug. only. *Temp.* for warm greenhouse species,

60° to 70°, Mar. to Sept.; Sept. to Mar., 50° to 55°; for cool greenhouse species, 55° to 65°, Mar. to Sept.; 40° to 50°, Sept. to Mar. *Repot* annually, removing old soil away from bulbs. *Place* in small pots first, shift into larger sizes later on. *No shade* required. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or pans of sandy soil in temp. of 65° to 75° in spring; off sets removed & treated as old bulbs at potting time.

Phaius.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Nepal, Rangoon, Ceylon, Mauritius, Madagascar. *Int.* 1778. *Ht.* 1 to 3 ft. *Species* cultivated, 14. *Flowers*, white, rosy purple, red, yellow, brown, orange; nearly all the year round. *Compost*, equal parts leaf-mould, loam, & decayed cow manure. *Pot.*, Mar. or Ap. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely, Ap. to Sept.; moderately, Sept. to Jan.; keep nearly dry, Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*: Mar. to Oct.; *resting period*: Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Phalænopsis (Moth Orchid, Indian Butterfly-plant).—*Ord.* Orchidaceæ. Stove evergreen epiphytal orchids, Orn. foliage. *Nat.* Malay Archipelago, Eastern India. *Int.* 1836. *Species* cultivated, about 30; varieties many. *Flowers*, white, yellow, purple, rose, brown, cream, violet; autn., winter, & spring. *Leaves*, green or variegated. *Compost*, equal parts sphagnum moss, fibrous peat with fine particles removed, charcoal, & clean potsherds. *Position*, shallow pans, small teak baskets, or blocks of wood, suspended from roof of stove. *Plant* in pans or baskets or fix to blocks, Feb. to Mar. In fastening plants to blocks, first place layer of moss, then roots of plant, then another layer of moss, & secure firmly with copper wire. *Pans* to be well drained. *Water* daily, Mar. to Ap.; baskets or blocks by dipping in tepid water; once or twice a week, Oct. to Mar. *Moist* atmosphere very essential in sum. *Shade* from sun. *Temp.*, 65° to 80°, Mar. to Oct.; Oct. to Mar., 60° to 65°. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Admit* moderate amount of air in sum. *Propagate* by division or by offsets removed from flowering stems when well rooted.

Phalaris (Canary Reed, Sword Grass, Bride's Laces, French Grass, Gardeners' Garters, Lady Grass, Lady's Garters, Lady's Laces, Painted Grass, Ribbon Grass, Silver Grass, Canary Grass).—*Ord.* Graminaceæ. Hardy annual & perennial flowering & ornamental grasses. *Nat.* Northern Hemisphere (Britain), S. Europe, Africa, Asia. *Ht.* 18 in. to 4 ft. *Species* cultivated, 2; variety 1. *Flowers*, white, green, purple, borne in panicles; July. *Leaves*, green or variegated with white. **CULTURE OF ANNUAL SPECIES**: Sow seeds $\frac{1}{2}$ in. deep in Ap. where required to grow. *Soil*, ordinary. *Position*, sunny. **CULTURE OF PERENNIAL SPECIES**: *Soil*, ordinary. *Position*, sunny or shady borders. *Plant*, Oct. to Ap. *Lift*, divide, & replant every 2 or 3 years. *Propagate* perennials by seeds sown outdoors in Ap., transplanting seedlings following Oct.; division of plants, Oct. to Ap.

Pharaoh's Corn (*Triticum compositum*)—see *Triticum*.

Phaseolus (Kidney Bean, Scarlet Runner, Runner Bean, French Bean, Climbing Snail Flower).—*Ord.* Leguminosæ. Stove & greenhouse deciduous twining perennials & annuals & hardy esculent-podded vegetables. *Nat.* (Kidney Bean) Tropics; others, Africa, S. America, India, & Buenos Ayres. *Int.* Kidney Bean (*P. vulgaris*), 1597; Snail Flower (*P. caracalla*), 1690. *Ht.* 1 to 12 ft. *Species* cultivated, about 4; varieties several. *Flowers*, white, scarlet, purple, & yellow; sum. **CULTURE OF SNAIL FLOWER**: *Compost*, equal parts loam & peat, little sand. *Position*, well drained pots, shoots twining round trellis, posts, or pillars. *Pot.*, Feb. *Water* moderately in winter; freely in sum. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by seeds sown in light soil in temp. 65° in Mar.; cuttings inserted in sandy soil under bell-glass in temp. 65° in Ap. **CULTURE OF**

KIDNEY BEAN (*P. vulgaris*): *Soil*, light, rich, well manured & dryish. *Position*, open, sunny. *Draw* drills 3 in. deep & 18 in. apart. *Sow* seeds 4 in. apart end of Apr. middle of May, beginning of June, & end of July. *Thin* seedlings when three leaves appear to 12 in. apart, replanting thinnings to form another row or rows. *Water* the drills thoroughly if soil is dry before sowing the seeds. *Mulch* with manure when seedlings appear. *Water* freely in dry weather. *Apply* stimulants when pods form. *Plants* bear earlier if sown along centre of early celery ridges than if sown in open garden. **POT CULTURE**: *Compost*, two parts good soil, one part decayed manure. *Size of Pots*, 8 in. *Put* 1 in. of crocks in bottom, next a layer of half decayed tree leaves or fresh horse droppings, then enough compost to half fill the pot. *Dibble* seeds $\frac{1}{2}$ in. deep, 2 in. apart. *Moisten* with tepid water. *Water* moderately when seeds sprout; freely when 1 in. high. *Top-dress* with equal parts soil & manure when plants reach rim of pot. *Apply* stimulants after top-dressing has been done a fortnight. *Temp.*, 55° to 65°. *Support* shoots with small twigs. *No shade* required. *Keep* close to glass. **CULTURE OF RUNNER BEANS** (*P. vulgaris multiflorus*): *Soil*, light, deep, well manured. *Position*, sunny or partially-shady garden, arbour, trellis, or fences; former best. *Sow* seeds first week in May 4 in. apart, and 3 in. deep in drills 6 ft. asunder; in double rows 9 in. apart & 8 in. asunder; in trenches 9 inches wide, 12 in. deep, containing 3 in. manure & 6 in. soil, seeds being dibbled 2 in. deep, 4 in. apart in two rows 6 in. asunder, thus: *Support* plants with stakes or strands of twine when 6 in. high, or nip off point of main shoot when 2 ft. high, & subsequent shoots when 6 in. long to ensure dwarf habit. *Mould* up those sown in drills. *Mulch* with manure. *Water* freely in dry weather, otherwise flowers will fall off. *Apply* stimulants freely when pods form. *Suitable artificial manures*: (1) 3 lbs. salt; $1\frac{1}{2}$ lb. each of nitrate of soda & superphosphate; 1 lb. kainit, half this to be applied to a square rod before sowing, remainder in June. (2) 2 lbs. kainit; 5 lbs. nitrate of soda; 9 lbs. superphosphate; 1 lb. sulphate of iron per square rod, to be applied when the plants are three inches high. *Liquid manures*: $\frac{1}{2}$ oz. nitrate of soda to a gallon; 1 oz. guano to a gallon; one-third horse or cow manure diluted with two-thirds water to be applied when pods form. *Quantity of Seed Required* for a row 50 ft. long: $\frac{1}{2}$ pint of kidney beans; 1 pint of runner beans. *Seeds* retain their vegetative powers for 3 years.

Pheasant's-eye (*Adonis autumnalis*)—see *Adonis*.

Pheasant's-eye Pink (*Dianthus plumarius annulatus*)—see *Dianthus*.

Phegopteris—*Ord.* Filices. Stove & greenhouse ferns; allied to, & now included under Polypodium. Evergreen & deciduous. *Nat.* Tropical America, E. & W. Indies, & Tasmania. *Int.* 1769. *Ht.* 1 to 5 ft. *Species* cultivated, 1 greenhouse, 13 stove. *Fronde*, feather-shaped or many times divided. *Compost*, equal parts loam, peat, leaf-mould, & silver sand. *Pot*, Feb. to Apr. *Position*, pots, baskets, or rock beds. *Shade* from sun essential. *Moist atmosphere*, Feb. to Sept.; moderately moist afterwards. *No syringing* required. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *No stimulants*. *Temp.* for greenhouse species, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°; stove species, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. *Propagate* by spores when ripe; division in Mar.

Philadelphus (*Syringa*, Mock-orange).—*Ord.* Saxifragaceæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, Mexico, N. America, India, China, Japan. *Int.* 1596. *Ht.* 2 to 10 ft. *Species* cultivated, 23; varieties several. *Flowers*, white, fragrant; May to Aug. **OUTDOOR CULTURE**: *Soil*, ordinary good. *Position*, sunny borders or forecourts. *Plant*, Oct. to Feb. *Prune* immediately after flowering, shortening shoots that have bloomed only. *Apply* soap suds or liquid manure occasionally to old established shrubs in sum. **POT CULTURE**: *Compost*, two parts sandy loam, one part leaf-mould, & sand. *Repot* annually after flowering. *Position*, cold greenhouse, Dec. to May, or warm greenhouse, Dec. to Apr.; outdoors afterwards in sunny spot;

pots plunged to rim in coal ashes or soil. *Water* moderately indoors; freely outside. *Propagate* by cuttings of young shoots inserted in sandy soil in temp. 55° in Ap., or in close cold frame outdoors in May; suckers or layers in spring.

Philesia.—*Ord.* Liliacæ. Half-hardy evergreen flowering shrubs. *Nat.* Valdivia. *Int.* 1853. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, pink; June. *Compost*, equal parts peat, loam, & coarse silver sand. *Position*, against walls, or in pots, in cold or cool greenhouse; against walls or in sheltered nooks outdoors, S.W. of England or Ireland. *Pot* or plant, Feb. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* foliage daily in greenhouse, Mar. to Oct. *Prune* directly after blooming. *Apply* weak stimulants once a week, May to Sept. *Propagate* by cuttings inserted in sandy peat under bell glass in greenhouse in sum.; suckers in spring.

Phillyrea (Jasmine Box, Mock Privet).—*Ord.* Oleacæ. Hardy evergreen shrubs. Flowering & orn. foliage. *Nat.* S. Europe. *Int.* 1597. *Ht.* 6 to 15 ft. *Species* cultivated, 15; varieties 7. *Flowers*, small, white; May. *Leaves*, lance or egg-shaped, dark green. *Soil*, ordinary. *Position*, sunny borders; sheltered corners N. England. *Plant*, Sept. to Ap. *Prune* straggly shoots only in Ap. *Propagate* by cuttings of firm shoots inserted in sandy soil in cold frame in Sept; grafting on common privet in Mar.

Philodendron.—*Ord.* Aroidæ. Stove evergreen dwarf or climbing plants. Orn. foliage. *Nat.* Tropical America, W. Indies. *Int.* 1759. *Ht.* 1 to 10 ft. *Species* cultivated, 47. *Leaves*, heart, egg, or arrow-shaped, oblong; green. *Compost*, equal parts peat, leaf-mould, loam, & silver sand. *Pot* or plant, Jan. to Ap. *Position*, dwarf kinds in pots; tall ones in beds or borders, with shoots trained up walls or pillars. *Water* freely all the year round. *Syringe* daily. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of stems inserted in light soil in temp. 75° at any time.

Phlebodium (Golden Polypody).—*Ord.* Filices. Stove evergreen ferns. *Nat.* West Indies, Philippines. *Int.* 1742. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Fronds*, large, once divided, green or glaucous. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap. to Oct. *Moist* atmosphere essential. *No* syringing required. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 60° to 60°. *ROOM CULTURE OF P. AUREUM*: *Compost* & potting as above. *Position*, near window, free from cold draughts. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 45° to 55°. *Water*, Oct. to Mar., once a week; Ap. to June & Sept. to Oct., twice a week; June to Sept., three times a week. *Propagate* by spores sown on surface of sandy peat in well drained pans placed in temp. 70° to 80° any time of year; division of creeping stems at potting time.

Phleum (Variegated Cat's Tail Grass).—*Ord.* Graminacæ. Hardy perennial grass. Orn. foliage. *Nat.* Britain. *Ht.* 2 to 3 ft. *Species* cultivated, 0; variegated variety of *P.* only. *Soil*, ordinary. *Position*, dry sunny borders. *Plant*, Oct. to Ap. *Propagate* by division of roots, Oct. or Ap.

Phlomis (Jerusalem Sage, Lampwick).—*Ord.* Labiatæ. Hardy & half-hardy herbaceous perennials & evergreen shrubs. *Nat.* S. Europe, Asia, India, Africa. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 13 hardy & 6 half-hardy perennials; 7 evergreen shrubs; varieties several. *Flowers*, purple, yellow, white; June to Aug. *CULTURE OF HALF-HARDY SPECIES*: *Compost*, two parts sandy loam, one part leaf-mould, half-a-part sand. *Position*, well drained pots in sunny cold greenhouse or frame. *Repot* annually, Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Apply* stimulants occasionally, May to Sept. *HARDY HERBACEOUS SPECIES*: *Soil*, ordinary. *Position*, sunny beds, borders, rockeries, or banks. *Plant*, Oct. to Ap. *Lift*, divide, & replant every three years. *HARDY EVERGREEN SPECIES*: *Soil*, good ordinary or sandy loam. *Position*, sunny well drained borders or rockeries. *Plant*, Oct. to Ap. *Mulch* with decayed manure in Mar. *Propagate* by seeds

sown in light soil in warm greenhouse in Mar., or sunny spot outdoors in Ap.; herbaceous kinds also by division, Oct. or Mar.; shrubs by cuttings inserted in cold frame in Aug.

Phlox (Wild Sweet William of N. America, Texan Pride, American Moss Pink).—*Ord.* Polemoniaceæ. Hardy & half-hardy annual and perennial herbs. *Nat.* N. America, Texas, & Asia. *Int.* 1725. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3 half-hardy, 1 annual, 36 hardy perennials; varieties numerous. *Flowers*, red, crimson, violet, rose, purple, white, yellow; Ap. to Sept. Phloxes for garden cultivation are divided into four classes, viz., *Alpines*: *P. pilosa*, *P. procumbens*, *P. reptans*, *P. subulata* and varieties. *Early-flowering or Tall*: *P. glaberrima* suffruticosa & varieties. *Late-flowering (tall)*: *Phlox maculata* decussata, *P. paniculata*, & varieties. *Annual*: *P. Drummondii*. **CULTURE OF ALPINE SPECIES**: *Soil*, deep, rich sandy loam, containing a little leaf-mould or peat. *Position*, masses on or as edgings to sunny borders, or on ledges of rockeries. *Plant*, Mar. to May. *Lift* & divide only when grown too large for the position they occupy; Mar. **POT CULTURE OF ALPINES**: *Compost*, two parts sandy loam, one part leaf-mould, & half a part sand. *Pot*, Mar. *Position*, cold frame or greenhouse. *Water* moderately, Oct. to Ap.; freely other times. *Admit* air freely always. **CULTURE OF EARLY AND LATE-FLOWERING KINDS**: *Soil*, deep rich moderately heavy loam; light soils not suitable. *Position*, sunny or partially-shaded borders, former preferable. *Plant*, Oct., Nov., Feb., or Mar. *Mulch* liberally with decayed manure in Mar. or Ap. *Apply* liquid manure frequently, May to Sept. *Water* freely in dry weather. *Cut* down stems in Oct. *Lift*, divide, & replant in fresh rich soil triennially. **POT CULTURE**: *Compost*, two parts turfy loam, one part leaf-mould or rotten cow manure, & one part coarse sand. *Position*, cold partially-shaded greenhouse in sum.; cold frame in winter. *Pot*, Mar. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants once a week, May to Sept. **CULTURE OF ANNUAL SPECIES**: *Sow* seeds $\frac{1}{2}$ in. deep in light soil in box, pan, or pot, in temp. 55° to 65°, Mar. *Transplant* seedlings 2 in. apart in boxes or pots, gradually harden off & plant outdoors, 6 in. apart, in rich soil, in sunny position, in June. *Nip* off point of main shoot after planting to induce bushy growth. *Water* freely in dry weather. *Mulch* with manure or cocoanut-fibre refuse. **POT CULTURE**: *Compost*, two parts loam, one part decayed manure or leaf-mould & little sand. *Plant* four seedlings in 5 in. pot in Ap. *Keep* in temp. 55° until June, then place in cold frame or on outside window sill. *Water* freely. *Apply* stimulants when 3 in. high. *Nip* off points of shoots when 3 in. high. *No* repotting required. *Propagate* early & late kinds by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 55° in autn. or spring; by cuttings of shoots obtained from base of old plants inserted in sandy soil in temp. 55° in Mar.; by division of plants in Oct. or Mar.; by cuttings of shoots covered $\frac{1}{2}$ in. of soil in temp. 55° in Mar. or Ap. *Alpines* by cuttings of shoots inserted in sandy soil in cold frame in July; division in Mar. or Ap.

Phœnicophorium.—See *Stevensonia*.

Phoenix (Date Palm, Wild Date Palm, Slender Date Palm).—*Ord.* Palmaceæ. Stove & greenhouse palms. *Orn.* foliage. *Nat.* Central India, East Indies, S. E. & W. Africa, Levant. *Int.* 1597. *Ht.* 6 to 40 ft. *Species* cultivated, 9 stove; 1 greenhouse. *Leaves*, feather-shaped, green. **CULTURE OF STOVE SPECIES**: *Compost*, three parts good fibrous loam, one part old cow manure, & a little coarse sand. *Position*, well drained pots or tubs in sunny part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; copiously, Mar. to Oct. *Syringe* foliage morning & evening daily, Ap. to Sept.; morning only, Sept. to Ap. *Apply* weak stimulants occasionally, May to Sept. *Place* a lump of sulphate of iron on surface of soil occasionally to keep foliage of a rich, healthy green hue. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. **CULTURE OF GREENHOUSE SPECIES**: *Compost*, as advised for stove species. *Pot*, Mar. or Ap. *Position*, light sunny part of

greenhouse. *Water* moderately, Sept. to Ap.; freely afterwards. *No* syringing required. *Temp.*, Ap. to Sept., 60° to 70°; Sept. to Ap., 45° to 55°. *Propagate* by seeds sown 1 in. deep in light sandy soil under bell-glass or in propagator in temp. 75°; Mar. or Ap.

Phormium (Common Flax Lily, New Zealand Flax, Small Flax Lily, Variegated New Zealand Lily).—*Ord.* Liliaceæ. Half-hardy evergreen perennial herbs. *Nat.* New Zealand, New Caledonia. *Int.* 1798. *Ht.* 3 to 6 ft. *Species* cultivated, 2; varieties, 5. *Flowers*, yellow, green, white; June to Sept. *Leaves*, green or variegated with purple, yellow, or white. **INDOOR CULTURE:** *Compost*, two parts turfy loam, one part each of leaf-mould & sand. *Position*, pots, tubs, or beds in cold or warm greenhouse, conservatory, balcony, or dwelling room. *Pot*, Feb. to Ap. *Water* copiously, Ap. to Oct.; moderately afterwards. *May* be stood outdoors in sunny position, June to Sept. **OUTDOOR CULTURE:** *Soil*, light, deep loam. *Position*, margins of ponds or streams, isolated specimens on lawns, or in beds or borders S. & S. W. of England & Ireland only. In other districts plants must be put out in May, lifted in Oct. and stored in greenhouse until following May. *Plant* permanently in Ap. or May. *Water* freely in dry weather. *Protect* in severe weather those left outdoors all winter with straw or dried fern. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of sandy soil in greenhouse or frame in Mar.; by division of roots in Ap.

Photinia (Chinese Hawthorn, Californian May Bush, Japanese Medlar, Japanese Quince, Loquat).—*Ord.* Rosaceæ. Half-hardy evergreen flowering shrubs. *Nat.* Mountains of India, China, Japan, California. *Int.* 1787. *Ht.* 10 to 30 ft. *Species* cultivated, 6. *Flowers*, white; May to Sept. *Fruit* of Loquat about the size of green walnut, pale orange red, downy, borne in bunches. **OUTDOOR CULTURE:** *Soil*, light deep loam. *Position*, against south walls S. & S. W. of England & Ireland only. *Plant*, Sept. to Nov., Ap. or May. *Prune*, Ap. *Protect* in severe weather with mats or straw hurdles. **INDOOR CULTURE:** *Soil*, two parts sandy loam, one part leaf-mould. *Position*, beds against back wall of cold or slightly heated sunny greenhouse. *Plant*, Oct. or Ap. *Water* moderately, Sept. to Ap.; freely afterwards. *Syringe* daily, May to Sept. *Prune* straggling shoots in Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pots of light soil in cold greenhouse or frame, spring or autn.; cuttings of firm shoots inserted in sandy soil in cold frame or greenhouse, Aug.; layering in Oct.; grafting on common quince in Mar.; budding on hawthorn in July.

Phrynium.—*Ord.* Scitamineæ. Stove & herbaceous perennials. Orn. foliage. *Nat.* E. Indies, Brazil, Malacca. *Int.* 1807. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, crimson; Oct. to Ap. *Leaves*, green or variegated. *Compost*, two parts fibrous peat, one part rich loam, one part sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Sept.; moderately, Sept. to Dec.; keep nearly dry afterwards. *Syringe* daily, Mar. to Sept. *Apply* weak stimulants occasionally during sum. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Repot* annually. *Propagate* by division of rhizomes in Feb. or Mar.

Phygellus (Cape Fig-wort).—*Ord.* Scrophulariaceæ. Half-hardy herbaceous perennial. *Nat.* S. Africa. *Int.* 1855. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, scarlet; June to Sept. *Soil*, light rich ordinary. *Position*, sunny well drained border at base of south wall S. & W. of England & Ireland only. *Plant*, Mar. or Ap. *Protect* in winter by covering of ashes or dry fern fronds placed around base of stem. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in shallow pans or boxes filled with light rich soil & placed in a temp. of 55° to 65°, Feb. or Mar., transplanting seedlings outdoors, May or June; by cuttings of ripened shoots inserted in pots in propagator in greenhouse or cold frame in July or Aug.; division of roots, Mar. or Ap.

Phyllanthus (Queensland Rock Broom).—*Ord.* Euphorbiaceæ.

Stove orn. foliaged plants. Evergreen. *Nat.* Jamaica, South Sea Islands, Cochin China, W. Indies, Java, New Hebrides. *Int.* 1699. *Ht.* 1 to 10 ft. *Species* cultivated, about 8. *Leaves*, oval or oblong, small, variegated with purple, white, yellow. *Compost*, equal parts sandy loam & fibry peat, one part equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* morning & evening, Ap. to Sept. *Prune* into shape, Jan. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell-glass in temp. 75°, spring or sum.

Phyllocactus.—*Ord.* Cactaceæ. Greenhouse fleshy-stemmed plants with no leaves. *Nat.* Central America & Mexico. *Int.* 1710. *Ht.* 2 to 10 ft. *Species* cultivated, about 9; varieties & hybrids, 19. *Flowers*, rose, white & red; all the year round. *Compost*, two parts light fibrous loam, one part of equal proportions of dried cowdung, leaf-mould, brick rubble, & silver sand. *Position*, well drained pots close to glass in warm greenhouse or sunny window, Sept. to July; outdoors fully exposed to the sun, July to Sept. *Pot*, Ap. *Repot* every three years only. *Firm potting* & good drainage essential. *Water* freely, May to Oct.; keep nearly dry, Oct. to May. *Apply* weak stimulants to plants that have been potted a year once a-week, May to Sept. *Syringe* plants daily, May to Sept. *Shade* from sun for a few weeks after repotting, also for a short time after removal to open air. *Temp.*, Oct. to Ap., 50° to 55°; Ap. to Oct., 60° to 75°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in light soil in pan or shallow box placed in temp. 65° to 75° in spring; by cuttings of stems dried in the sun for a day or two, then inserted singly in two-inch pots filled with light sandy soil, & placed on sunny shelf in greenhouse, Ap. to Sept.

Phyllocladus (Celery-leaved Pine-tree, Adventure Bay Pine).—*Ord.* Coniferae. Greenhouse orn. leaved evergreen trees. *Nat.* New Zealand & Borneo. *Int.* 1825. *Ht.* 10 to 40 ft. *Species* cultivated, 4. *Compos*, two parts strong loam, one part leaf-mould & sand. *Position*, beds, tubs, or pots in light greenhouse. *Pot* or *plut*, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 60° to 70°. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. 45° to 50° in spring.

Phyllostachys (Whangee Cane).—*Ord.* Graminaceæ. Half-hardy orn.-foliaged grasses. *Nat.* China, Japan. *Int.* date unknown. *Ht.* 4 to 12 ft. *Species* cultivated, 2. *Inflorescence* borne in panicles; sum. *Foliage*, narrow, lance-shaped, green. *Habit* of growth, graceful. *Soil*, rich deep sandy loam. *Position*, moist sheltered borders S. & W. of England & Ireland only. *Protect* in winter with thick covering of dry fern fronds or litter in autn. *Plant*, Ap. or May. *Propagate* by division of plants in Mar. or Ap.

Phyllotænium.—*Ord.* Aroidaceæ. Stove evergreen orn.-foliaged plants. *Nat.* New Grenada. *Int.* 1871. *Ht.* 12 to 18 in. *Species* cultivated, 1; variety 1. *Leaves*, large, arrow-shaped, shining, green, with silvery-white margins. *Compost*, two parts fibrous loam, one part leaf-mould, half a part silver sand. *Position*, well drained pots in shady part of stove. *Close* moist atmosphere highly desirable. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* morning & afternoon daily, Ap. to Sept. *Temp.*, Mar. to Sept.; 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by division of roots, Feb. or Mar.

Phymatodes.—*Ord.* Filices. Stove greenhouse ferns. *Nat.* Malay Archipelago, E. Indies, New Zealand, Ecuador, Brazil. *Int.* 1820. *Ht.* 6 to 18 in. *Species* cultivated, about 15. *Fron*s, once divided, smooth, leathery. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap. to Oct. *Moist* atmosphere essential. *No* syringing required.

Temp., Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in temp. of 70° to 80° any time; division of plants at potting time.

Physalis (Ground or Winter Cherry, Alkekeng, Bladder Herb, Red Nightshade, Red Winter Cherry, Strawberry Tomato, Cape Gooseberry, Peruvian Cape Gooseberry).—*Ord.* Solanaceæ. Greenhouse & hardy perennial herbs. *Nat.* Caucasus, China, S. America, Mexico. *Int.* (*P. Alkekengi*) 1548, (*P. peruvianum*) 1772. *Flowers*, white, yellow, violet; July. *Fruit*, edible, a globular berry inclosed in an inflated calyx; that of *P. Alkekengi*, scarlet; of *P. peruvianum*, purplish. *Species* cultivated, 2; varieties 2. **CULTURE OF HARDY SPECIES** (*P. Alkekengi*): *Soil*, rich. *Position*, sunny well drained border. *Plant*, Mar. or Ap. *Lift*, divide, & replant in fresh soil every third year. *Gather* stems bearing fruits in Sept., & dry for winter decorations. **CULTURE OF GREENHOUSE SPECIES** (*P. peruvianum*): *Soil*, two parts loam, one part well decayed manure or leaf-mould & little sand. *Position*, singly in 5 or 6-in. pots, with shoots trained to sticks & placed close to front of sunny greenhouse, or planted in small beds & shoots trained up back wall. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants, once or twice a week, May to Sept. *Gather* fruit when ripe & fully coloured. *Propagate* hardy species by seeds sown in sunny spot outdoors in Ap.; by division of roots in Mar. or Ap. Greenhouse species by seeds sown $\frac{1}{2}$ in. deep in shallow pots or pans of light soil & placed in temp., 65° to 75°; Feb. or Mar.; cuttings inserted singly in pots of light sandy soil placed in propagator or under bell-glass in temp. 65° to 75°, Jan. to Ap.

Physianthus (White Bladder Flower).—*Ord.* Asclepiadaceæ. Greenhouse evergreen flowering climber. *Nat.* Brazil. *Int.* 1830. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, white, red; downy & bladder-like; July. *Compost*, equal parts sandy loam, fibrous peat, & silver sand. *Position*, cold greenhouse, in large well drained pot or tub with shoots trained up rafters, or in small bed with shoots trained up pillars or walls. *Pot* or plant, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily except when in flower, Mar. to Oct. *Prune* straggling shoots somewhat closely after flowering. *May* be grown outdoors against S. wall in sheltered parts of S. of England. *Propagate* by seeds sown in light sandy soil in pots or pans under bell-glass, or in propagator in temp. 65° to 75° in spring; cuttings of firm side shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass in temp. 55° to 65° in sum.

Physostegia (False Dragon-head).—*Ord.* Labiatae. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1683. *Ht.* 1 to 4 ft. *Species* cultivated, 3; varieties 3. *Flowers*, purple or flesh; June to Sept. *Soil*, light ordinary. *Position*, cool partially shaded borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil outdoors in Ap.; cuttings of young shoots inserted in light sandy soil under hand-light or in cold frame, Ap. or May; division of roots, Oct., Nov. or May.

Phyteuma (Horned Rampion).—*Ord.* Campanulaceæ. Hardy perennial herbs. *Nat.* Apennines, S. Europe, Britain, Caucasus. *Int.* (foreign species) 1640. *Ht.* 6 in. to 6 ft. *Species* cultivated, about 12. *Flowers*, blue, white; May to Sept. *Soil*, deep rich loam mixed with limestone grit & old mortar & leaf-mould or peat. *Position*, sunny rockeries for dwarf species; sunny borders for tall kinds. *Plant*, Mar. or Ap. *Lift*, divide, & replant only when overgrown. *Top-dress* dwarf species with a mixture of peat, leaf-mould, lime, & a little old mortar annually in Feb. or Mar. *Water* freely in dry weather. *Propagate* by seeds sown in light sandy soil in shallow boxes in cold frame, Sept. or Oct.; transplanting seedlings in permanent positions, Ap. or May; division of plants in Mar. or Ap.

Phytolacca (Virginian Poke, Dyer's Grapes, Red-ink Plant, Hydrangea-leaved Poke, Pigeon-berry).—*Ord.* Phytolaccaceæ. Hardy her-

baceous perennials. *Nat.* S. America, Mexico. *Int.* 1768. *Ht.* 2 to 5 ft. *Species* cultivated, 20. *Flowers*, white, green, succeeded by deep purple berries in autn. *Leaves*, broad, ovate, dark green, changing to rich purple in autn. *Soil*, good ordinary. *Position*, sunny or shady borders in woodlands, banks, or ferneries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seed sown $\frac{1}{2}$ in. deep in sandy soil outdoors in spring or autn.; division of plants in Oct. or Mar.

Picea (Silver Fir, Black Spruce, Servian Pine).—*Ord.* Coniferae. Hardy evergreen trees. Orn. foliage. *Nat.* Japan, California, Rocky Mountains, N. Europe, Himalayan Mountains, Siberia. *Int.* 1548. *Ht.* 4 to 120 ft. *Species* cultivated, 15; varieties several. *Leaves*, needle-shaped, spirally scattered. *Cones*, erect, cylindrical, thin-scaled. *Soil*, deep rich sandy loam. *Position*, high, dry, open lawns or shrubberies away from sea coast. *Plant*, Oct. to Ap. No pruning required. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy loam in temp. of 55° in Mar., or outdoors in Ap.; cuttings inserted in sandy soil in cold frame or in pots under bell-glass or hand light outdoors, Aug. or Sept.; layering shoots or branches in autn.; inarching or grafting in Mar.

Pickereel Weed (*Pontederia cordata*)—see Pontederia.

Picotee (*Dianthus caryophyllus*)—see Dianthus.

Piedmont Garlic (*Allium pedemontanum*)—see Allium.

Piedmont Primrose (*Primula pedemontana*)—see Primula.

Pieris.—*Ord.* Ericaceae. Hardy evergreen flowering shrubs. *Nat.* Japan, N.W. America, Himalayan Mountains, Malay Peninsula. *Int.* 1736. *Ht.* 1 to 20 ft. *Species* cultivated, 6. *Flowers*, white, red, purple, flesh; Ap. to June. **OUTDOOR CULTURE**: *Soil*, equal parts peat, leaf-mould, or silver sand. *Position*, open sheltered borders, rockeries or bogs. *Plant*, Sept. to Nov., or Mar. *Prune* straggling shoots only moderately after flowering. *Water* freely in dry positions during sum. **POT CULTURE**: *Soil*, equal parts peat, leaf-mould, & fine silver sand. *Position*, well drained pots in cold greenhouse, Nov. to June; in shady position outdoors, June to Nov. *Pot*, Oct. or Nov. *Water* moderately, Nov. to Mar.; freely afterwards. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy peat in cold frame, Nov. or Mar.; layering shoots in Sept.; division of plants, Oct. or Nov.

Pigeon-berry (*Phytolacca deandra*)—see Phytolacca.

Pigmy Catch-fly (*Silene pumilis* & *S. tenella*)—see Silene.

Pigmy Crocus (*Crocus minimus*)—see Crocus.

Pigmy Daffodil (*Narcissus minimus*)—see Narcissus.

Pigmy Laburnum-tree (*Cytisus Ardoivnii*)—see Cytisus.

Pigmy Rest-harrow (*Ononis minutissima*)—see Ononis.

Pigmy Scotch-fir (*Pinus sylvestris nana*)—see Pinus.

Pigmy Sunflower (*Actinella grandiflora*)—see Actinella.

Pigmy Water-Lily (*Nymphaea pygmaea*)—see Nymphaea.

Pig's-face (*Mesembryanthemum aquilaterale*)—see Mesembryanthemum.

Pilea (Artillery or Pistol Plant, Stingless Nettle).—*Ord.* Urticaceae. Stove perennial herbs. Orn. foliage. *Nat.* W. Indies. *Int.* 1793. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, insignificant; unexpanded buds burst when in contact with moisture & discharge pollen. *Leaves*, minute. *Habit*, graceful, fern-like. *Compost*, equal parts loam, leaf-mould, & silver sand. *Position*, small pots in partially shaded part of stove. *Pot*, Feb. to Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by seeds sown on surface of light sandy soil, slightly covered with fine mould & placed in temp. 65° to 75° in spring; cuttings inserted singly in small well drained pots of sandy soil in temp. 65° to 75°, Jan. to May; division of plants, Feb. or Mar.

Pilocereus (Houllett's Wool Cactus, Old Man's Head Cactus).—*Ord.*

Cac'acem. Greenhouse succulent perennials. *Nat.* Bolivia, Grenada, Mexico, Guatemala. *Int.* date unknown. *Ht.* 1 to 25 ft. *Species* cultivated, 6. *Flowers*, greenish white, rosy purple; very rarely produced. *Stems*, tall, erect, fleshy, ribbed, bearing hairy tubercles furnished with bunches of short spines & clothed at apex with long white hairs. *Compost*, two parts fibrous sandy loam, one part brick rubble, old mortar, & sand. *Position*, well drained pots in light dry sunny warm greenhouse or stove. *Pot.* Mar. *Water* moderately, Mar. to May, & Sept. to Oct.; copiously, May to Sept. *No shade* required. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of sandy soil in temp. 75°, Mar., keeping soil moderately moist.

Pilumna.—*Ord.* Orchidaceæ. Greenhouse epiphytal orchids. *Nat.* New Grenada, Columbia. *Int.* 1858. *Species* cultivated, 1; variety 1. *Flowers*, yellow, green, white; very fragrant; winter. *Compost*, equal parts fibrous peat, fresh sphagnum moss, charcoal or clean crocks. *Position*, well drained pots with base of plants slightly elevated above rim in light part of greenhouse close to glass. *Pot.* Feb. or Mar., or immediately new growth begins. *Water* freely, Mar. to Sept.; moderately afterwards. *Temp.*, May to Sept., 55° to 65°; Sept. to Feb., 45° to 55°; Feb. to May, 50° to 60°. *Growing period*, Feb. to Sept.; *resting period*, Sept. to Feb. *Syringe* lightly daily in sum. *Keep* atmosphere constantly moist in sum. by damping floors, stages, etc., several times daily. *Propagate* by division of pseudo-bulbs at potting time.

Pimelea (Rice-flower, Victorian Bird Cherry).—*Ord.* Thymelacææ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1793. *Ht.* 2 to 4 ft. *Species* cultivated, about 6. *Flowers*, pink, rose, white, borne on points of shoots of previous year's growth; Ap. to July. *Compost*, three parts fibrous peat, one part turfy loam, half a part silver sand. *Position*, well drained pots in light airy greenhouse. *Prune* moderately close immediately after flowering. *Pot* soon as new growth commences. *Firm* potting essential. *Nip* off points of shoots of young plants occasionally to induce bushy growth. *Water* freely, Ap. to Oct; moderately afterwards. *Grow* in a moist atmosphere for a few weeks after potting, then gradually harden off & place in an airy greenhouse. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in light sandy soil under bell-glass in temp. 55° to 65°, Feb. to May; cuttings of young shoots, 2 in. long, inserted in compost of one part peat, two parts silver sand under bell-glass in temp. 55° to 65°, Mar. or Ap.

Pimenta (Allspice, Black Cinnamon, Bay-berry-tree, Wild Clove, Pimento Bush).—*Ord.* Myrtacææ. Stove evergreen flowering trees. *Nat.* W. Indies. *Int.* 1759. *Ht.* 2 to 20 ft. *Species* cultivated, 2. *Flowers*, white, red; May to July. *Leaves*, oval, coriaceous, hairy, aromatic. *Berries*, aromatic. *Compost*, two parts sandy loam, one part leaf-mould, & one part sand. *Position*, well trained pots or beds with branches trained to wall. *Pot.* Feb. or Mar. *Water* moderately, Oct. to Ap.; freely afterwards. *Syringe*, Ap. to Aug. *Prune* straggling shoots moderately in Mar. *Temp.*, Sept. to Mar., 55° to 60°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots inserted in sandy soil under bell-glass in temp. 65° to 75° in sum.

Pimento Bush (*Pimento officinalis*)—see Pimento.

Pimpled Blue-Bush (*Ceanothus papillosus*)—see Ceanothus.

Pinanga.—*Ord.* Palmacææ. Stove palms. *Orn.* foliage. *Nat.* Java, Sumatra, Penang, Borneo, Philippines. *Int.* 1848. *Ht.* 6 to 20 ft. *Species* cultivated, about 4. *Leaves*, feather-shaped, green. *Compost*, one part loam, two parts peat, half a part silver sand. *Position*, well drained pots in shady lofty stove. *Pot.* Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily afterwards. *Place* few crystals of sulphate of iron on surface of soil occasionally to insure deep green foliage. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°.

Propagate by seeds sown $\frac{1}{2}$ in. deep singly in 2-in. pots of sandy loam & peat under bell glass in temp. 75° to 85° in spring.

Pin Oak (*Quercus palustris*)—see *Quercus*.

Pin-pillow Cactus (*Opuntia curassavica*)—see *Opuntia*.

Pincushion Flower (*Scabiosa atropurpurea*)—see *Scabiosa*.

Pine Apple (*Ananassa sativa*)—see *Ananassa*.

Pine-apple-flower (*Eucomis punctata*)—see *Eucomis*.

Pine-apple-leaved Eryngo (*Eryngium bromeliæfolium*)—see *Eryngium*.

Pine-apple-scented Sage (*Salvia rutilans*)—see *Salvia*.

Pine Barren Beauty (*Pyxidanthera barbulata*)—see *Pyxidanthera*.

Pine-barren Sand-wort (*Arenaria squarrosa*)—see *Arenaria*.

Pine Strawberry (*Fragaria chilensis grandiflorus*)—see *Fragaria*.

Pine-tree (*Pinus austriaca*)—see *Pinus*.

Pinguicula (Butter-wort, Bog Violet, Earmug Grass, Butter-root, Ecce Grass, Rot grass, Steep Grass, Yorkshire Sanicle. *Ord.* Lentibulariaceæ. Greenhouse & hardy perennial herbs. *Nat.* Europe (Britain), N. America, Mexico. *Ht.* 3 to 6 in. *Species* cultivated, 4 greenhouse, 5 hardy. *Flowers*, white, yellow, crimson, violet, purple; May to Oct. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, equal parts fibrous peat, sphagnum moss, & clean crocks. *Position*, well drained pots or shallow pans placed on inverted pots in saucer of water under bell-glass or hand-light in shade. *Pot*, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Admit* air for a few minutes daily every morning by tilting bell-glass or hand-light. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. **CULTURE OF HARDY SPECIES:** *Soil*, rich loam for *P. grandiflora*; peat & rough gravel for *P. alpina*; moist peat or peaty loam for *P. vulgaris* & *P. lusitanica*. *Plant*, Mar. or Ap. *Water* freely in dry positions in sum. *Mulch* with thick layer of cocoanut-fibre refuse in May. *Propagate* by seeds sown on surface of shallow pans filled with equal parts of sphagnum moss, peat, & sand, placed under bell-glass & kept moist in temp. of 55° to 65°, Feb., Mar., or Ap.; division of plants at potting or planting time.

Pink (*Dianthus plumarius*)—see *Dianthus*.

Pink Crane's-bill (*Geranium sanguineum lancastricense*)—see *Geranium*.

Pink-flowered Hawk-weed (*Hieracium incarnatum*)—see *Hieracium*.

Pink-flowered Kidney-Vetch (*Anthyllis vulneraria rubra*)—see *Anthyllis*.

Pink-flowered St. John's-wort (*Hypericum virginicum*)—see *Hypericum*.

Pink-of-my-John (*Viola tricolor*)—see *Viola*.

Pink-rosette Everlasting (*Rhodanthe Manglesi*)—see *Rhodanthe*.

Pinus (Fir, Deal Tree, Pine Tree).—*Ord.* Conifera. Hardy orn. foliage trees. Evergreen. *Nat.* Britain, U. S. America, N. America, China, California, Greece, Levant, Himalayas, Siberia, Central Europe, Philippines, Japan, Persia, Russia. *Int.* (foreign species) 1596. *Ht.* 5 to 200 ft. *Species* cultivated, about 76; varieties several. *Leaves*, needle-like, long, two to five in a whorl. *Cones*, conical, erect. *Soil*, ordinary for common kinds; deep rich loam for choice sorts. *Position*, singly or in groups in parks: *P. austriaca*, *P. macrocarpa*, *P. ponderosa*, *P. cembra*, *P. excelsa*, *P. Lambertiana*, *P. strobus*; singly on lawns: *P. contorta*, *P. Bungeana*, *P. parviflora*; banks of streams & swamps: *P. rigida*; chalk soils: *P. austriaca*, *P. Laricio*, *P. pinaster*, *P. sylvestris*, *P. excelsa*, *P. insignis*; avenues: *P. austriaca*, *P. excelsa*, *P. strobus*; shelters or screens: *P. austriaca*, *P. Laricio*, *P. pinaster*, *P. excelsa*, *P. cembra*, *P. strobus*; memorial trees: *P. excelsa*, *P. Lambertiana*; seaside: *P. Laricio*, *P. pinaster*, *P. insignis*. *Plant*, Sept. to Nov., Feb. to May. *No*

pruning required. *Distance* apart for planting for screens 10 to 15 ft. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots filled with sandy loam, placed in cold greenhouse or frame in Ap., transplanting seedlings outdoors following spring; or $\frac{1}{4}$ in. deep outdoors in Ap. in bed of moist sandy soil, transplanting seedlings the next year; grafting on common species in Ap.

Pinxter-flower (*Azalea nudiflora*)—see *Azalea*.

Piony (*Pæonia officinalis*)—see *Pæonia*.

Pipe Privet (*Syringa vulgaris*)—see *Syringa*.

Pipe-tree (*Syringa vulgaris*)—see *Syringa*.

Pipe Vine (*Aristolochia Sipho*)—see *Aristolochia*.

Piper (Pepper Plant).—Piperaceæ. Stove & greenhouse evergreen shrubs. Orn. foliage. *Nat.* E. Indies, Japan, Columbia, Peru, New Zealand. *Int.* 1748. *Ht.* 9 in. to 6 ft. *Species* cultivated, 24 stove; 2 greenhouse. *Flowers*, green; various. *Leaves*, large, green, or purple, marbled or blotched with white or bronze. **CULTURE OF STOVE SPECIES:** *Compost*, two parts loam, one part leaf-mould, half a part sand. *Position*, well drained pots in shade. *Pot*, Feb. to Ap. *Prune* slightly into shape, Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* twice daily, Ap. to Sept.; once daily after wards. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. **CULTURE OF GREENHOUSE SPECIES:** *Compost* as for stove species. *Position*, well drained pots in partial shade. *Pot*, Mar. or Ap. *Water* moderately, Oct. to Ap.; freely afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 50° to 55°. *Propagate* by cuttings of half-ripened shoots inserted in small pots of sandy soil under bell-glass in temp. of 65° to 75°, Mar. to July.

Pipperidge (*Berberis vulgaris*)—see *Berberis*.

Piptanthus (Nepaul Laburnum).—Ord. Leguminosæ. Hardy evergreen flowering shrub. *Nat.* Himalayas, China. *Int.* 1821. *Ht.* 5 to 10 ft. *Species* cultivated, 2. *Flowers*, yellow; May to June. *Soil*, rich sandy loam. *Position*, warm sheltered shrubberies, S. & S.W. of England; against S. walls, N. of London. *Plant*, Sept., Oct., Ap. or May. *Prune* straggling shoots moderately after flowering. *Propagate* by seeds sown in sandy soil in cool greenhouse or cold frame in spring; cuttings of ripened shoots inserted in small pots of sandy soil under bell-glass or hand-light outdoors, Aug. or Sept.; layering shoots, Sept. or Oct.

Piptatherum.—Ord. Graminaceæ. Hardy perennial flowering grass. *Nat.* S. Europe. *Int.* 1778. *Ht.* 18 in. *Species* cultivated, 1. *Inflorescence* borne in large panicles, graceful. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Gather* inflorescence when fully expanded & dry for winter use. *Propagate* by seeds sown outdoors in Ap.; division of plant in Mar.

Pistacia (Pistachio-nut Tree, Turpentine Tree, Mastich Tree).—Ord. Anacardiaceæ. Hardy evergreen & deciduous trees. Flowering & orn. foliage. *Nat.* S. Europe, Syria, Canary Islands. *Int.* 1666. *Ht.* 15 to 40 ft. *Species* cultivated, 2 evergreen, 2 deciduous. *Flowers*, small, green; Ap. to July. *Leaves*, unequally feather-shaped, green; reddish in young state. *Soil*, deep rich sandy loam. *Position*, sheltered shrubberies S. & S.W. England; against S. walls, N. of London. *Plant* evergreen species, Sept., Oct., Ap. or May; deciduous species, Nov. to Feb. *Prune* evergreen species, Ap.; deciduous species, Nov. to Feb. *Propagate* by cuttings inserted in sandy soil in cold frame or under hand-light, Sept. or Oct.; layering in Sept.

Pistachio Nut (*Pistacia vera*)—see *Pistacia*.

Pistia (Tropical Duck Weed, Water Lettuce).—Ord. Aroidaceæ. Stove aquatic perennial. *Nat.* Jamaica. *Int.* 1843. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Flowers*, green, borne on spadix at base of leaves. *Leaves*, wedge-shaped, notched, pale green, hairy. *Soil*, rich loam. *Position*, shallow tub or tank in stove. *Place* 2 in. layer of soil on bottom of tub or tank & plant on surface of water. *Replenish* with tepid water occasionally. *Add* fresh soil

annually. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by offsets.

Pisum (Garden Pea, Sugar Pea, Tall Pea, Crown or Mummy Pea).—*Ord.* Leguminosæ. Hardy annuals. Edible seeded & podded vegetables. Orn. flowering climbers. *Nat.* (Garden Pea) S. Europe; (Tall Pea), Iberia. *Int.* (Garden Pea) 1548; (Tall Pea) 1820; (Crown or Mummy Pea) date not known. *Flowers* of garden peas white or red; tall pea, red or purple; mummy pea, purple; May to Oct. **CLASSIFICATION OF GARDEN PEAS:** (a) Pods with parchment-like lining & round or roundish, smooth seeds. *Frames:* Small, white, thin-skinned seeds; typical var., Sutton's Ringleader. *Prussians:* Small, thin-skinned blue seeds; typical var., Blue Prussian. *Imperials:* Large thick-skinned blue seeds; typical var., Laxton's Fillbasket. *Marrows:* Large, white, thick-skinned seeds; typical var., Giant Marrow. *Green Marrows:* White & olive coloured seeds; typical var., William I. (b) Pods with parchment-like lining & wrinkled, more or less flatish seeds: *Wrinkled White Marrows:* White seeds; typical var., American Wonder. *Wrinkled Green Marrows:* Green seeds; typical var., Ne Plus Ultra. *Wrinkled Blue Marrows:* Blue seeds; typical var., Veitch's Perfection. (c) Pods without parchment-like lining: *Sugar Peas:* Seeds, large & white; typical var., Géant Sans Parchemin. **SUB-CLASSES:** (1) *Earliest Round Seeded:* Typical vars., First Crop, Sangster's No. 1, Day's Early Sunrise; sow Nov. to Feb. to gather May & June. (2) *Second Early Round Seeded:* Typical vars., Hundredfold, Laxton's Supreme, Pride of the Market; sow Jan. to Ap., to gather June & July. (3) *Maincrop Round Seeded:* Typical vars., Blue Scimitar, Laxton's Fillbasket, Sharp's Invincible; sow Feb. to May, to gather July & Aug. (4) *Earliest Wrinkled Marrow-fats:* Typical vars., American Wonder, Alpha, Advancer; sow Mar. or Ap., to gather June & July; also May & June, to gather Aug. & Sept. (5) *Second Early Wrinkled Marrow-fats:* Typical vars., Champion of England, Fortyfold, Telephone; sow Mar. & Ap., to gather June & July; also May & June, to gather Aug. & Sept. (6) *Maincrop Wrinkled Marrow-fats:* Typical vars., British Queen, Ne Plus Ultra, Veitch's Perfection; sow Mar., Ap., & May, to gather July, Aug., & Sept. **CULTURE OF GARDEN PEAS:** *Soil*, deep, rich calcareous loam, previously trenched three spits deep & containing a thick layer of manure between first & second spit. *Position*, open sunny, protected from N. & N.E. & E. winds. *Suitable Manures:* Solid—Horse dung or peat-moss litter for heavy soils; cow or pig dung for light or sandy soils. *Chemical*—(1) Kainit 2 lb., nitrate of soda 5 lb., superphosphate of lime 9 lb., half of each to a square rod before sowing, remainder when plants are 6 in. high; (2) nitrate of soda 1½ lb., kainit 1½ lb., superphosphate 1½ lb., salt 3 lb., applied same as No 1; (3) native guano 6 lb. to a square rod applied before sowing, & 6 lb. when plants are 3 in. high; (4) Peruvian guano 1 lb. for square rod before sowing, also 1 lb. when plants are 3 in. high; (5) Beeson's 1 lb. per square yard placed along drill & covered with layer of soil before sowing. *Liquid*—Horse & cow urine diluted with two-thirds water; Clay's fertilizer 1 oz. to gallon of water; nitrate of soda ½ oz. to gallon, all to be applied when ground is moist only & when pods have just formed. *Direction of rows:* E. to W. or S.E. to N.W. for early sorts; N. to S. for main crops. *Depth of drills*, 2½ to 3 in.; width 6 to 9 in. *Distance apart for sowing the seeds:* 1 in. each way for dwarf sorts; 2 in. for medium kinds; 3 in. for tall vars., arranged in three rows, thus: *Distance between rows:* 18 in. for varieties not exceeding 2 ft. in height; 3 ft. for those not more than 4 ft. high; 6 to 8 ft. for those growing 5 to 6 ft. high. *Sow* earliest sorts on south border, Nov. & Jan., or in 4½ in. pots in temp. 55° in Jan., hardening plants off when 3 in. high in cold frame & planting outdoors in Feb. or Mar.; second early sorts in open garden in Feb. & Mar.; main-crop, Ap. & May; late crops, June & July. *Draw* mould up to each side of row when plants are 6 in. high & place supports to them. *Mulch* to width of 15 in. on each side of row with manure. *Water* copiously in dry weather. *Nip* off

points of shoots of tall kinds when 4 ft. high, & again when 5 ft. high. *Protect seeds from mice by placing them in sweet oil, then rolling in red lead or powdered resin. Quantity of seed required for a row 50 ft. long: 1 pint. Seeds retain their vegetative powers 3 years. Round-seeded sorts germinate more quickly than wrinkled kinds. CULTURE OF SUGAR PEAS (*P. sativum saccharatum*): Soil, same as for garden peas. Sow in Mar. or Ap., 2½ in. deep in drills 6 in. wide & 6 ft. apart, & earth up & stake in the usual way. Gather pods when fully developed & cook like French beans. Rotation: Peas may follow potatoes, carrots, parsnips, turnips, broccoli, or cabbage; & be succeeded by cabbage, turnips, spinach, or celery. CULTURE OF TALL OR ORNAMENTAL FLOWERING PEA (*P. elatum*): Soil, ordinary. Position, sunny borders. Sow seeds 2½ in. deep & 3 in. apart in groups, in Mar. or Ap. Support with stakes when 6 in. high. Remove pods as they form to ensure continuous flowering. CULTURE OF MUMMY PEA (*P. sativum umbellatum*): Soil, ordinary. Position, open sunny borders. Sow seeds ½ in. deep, three or four in a 3-in. pot filled with light soil & placed in warm window or greenhouse in Mar., transplanting seedlings outdoors in May; or 2½ in. deep in open ground in Ap. Support with stakes when 6 in. high. Water copiously in dry weather. Apply stimulants occasionally when flowers appear.*

Pita-fibre-plant (*Agave americana*)—see Agave.

Pitcairnia.—*Ord.* Bromeliacæ. Stove perennial herbs. *Nat.* Tropical America. *Int.* 1777. *Ht.* 1 to 3 ft. *Species* cultivated, about 43. *Flowers*, scarlet, yellow, white; all the year round. *Leaves*, narrow or sword-shaped; margins prickly. *Compost*, equal parts fibrous loam, rough peat, & leaf-mould. *Pot.* Mar. *Water* freely always. *Good drainage* essential. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by offshoots inserted in small pots at any time.

Pitch Pine-tree (*Pinus rigida*)—see Pinus.

Pitcher-plants.—(*Sarracénias & Nepenthes*)—which see.

Pittosporum (Parchment-bark, Brisbane Laurel, Queensland Laurel).—*Ord.* Pittosporiaccæ. Greenhouse evergreen & half-hardy flowering shrubs. *Nat.* Africa, Asia, Australasia, Polynesia. *Int.* 1783. *Ht.* 4 to 20 ft. *Species* cultivated, 5 greenhouse, 4 half-hardy. *Flowers*, white, red, purple, yellow; fragrant; Mar. to Aug. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts fibrous loam, one part fibrous peat, half a part silver sand. *Position*, pots or tubs in light airy sunny greenhouse. *Pot.* Mar. or Ap. *Prune* straggling shoots moderately immediately after flowering. *Water* moderately, Sept. to Ap.; freely afterwards. *Syringe* occasionally, except when in flower, during sum. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 60° to 70°. **CULTURE OF HALF-HARDY SPECIES:** *Soil*, deep sandy loam. *Position*, well drained border against S. walls S. & S.W. England; pots in cold greenhouse, Oct. to May; sunny border outdoors, May to Oct., N. of London. *Plant.* Mar. or Ap. *Propagate* by cuttings of moderately firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under bell-glass in shade in temp. 55° to 65° in sum.

Placœ.—*Ord.* Amaryllidacæ. Greenhouse bulbs. Deciduous. *Nat.* Chili. *Int.* 1840. *Ht.* 12 to 18 in. *Compost*, two parts sandy loam, one part well decayed cow manure or leaf-mould, & one part coarse sand. *Pot.* Aug. or Sept., placing point of bulb just below surface of soil in a 4½-in. pot or three in a 6-in. pot. *Good drainage* essential. *Plunge* pots to rim in coal ashes or cocoanut-fibre refuse in cold frame, & protect from frost until Dec., then remove to greenhouse. *Water* moderately from time growth begins until leaves decay, then keep quite dry. *Repot* annually in Aug. *Season of growth*, Jan. to Aug.; *season of rest*, Aug. to Jan. *Temp.*, Dec. to Ap., 60° to 65°; Ap. to Aug., 60° to 70°; Aug. to Dec., 35° to 40°. *Propagate* by offsets in Aug.

Plane-tree (*Platanus orientalis*)—see Platanus.

Plantain-leaved Leopard's-bane (*Doronicum plantagineum*)—see *Doronicum*.

Plantain-Lily (*Funkia grandiflora*)—see *Funkia*.

Plantain-tree (*Musa paradisiaca*)—see *Musa*.

Platanus (Plane-tree, American Plane-tree, American Sycamore, Eastern Plane-tree, Oriental Plane-tree, Western Plane-tree).—*Ord.* *Platanaceæ*. Hardy deciduous trees. *Orn.* foliage. *Nat.* Western U.S.A., Levant. *Int.* 1548. *Ht.* 60 to 89 ft. *Species* cultivated, 2; varieties several. *Leaves* more or less deeply lobed, coriaceous, pubescent; green or variegated. *Soil*, deep rich moist loam. *Position*, sunny open & sheltered. *Plant*, Oct. to Mar. *Prune* into shape when desirable, Oct. to Feb. *Plenty* of moisture at roots essential; dry soil not suitable. *Propagate* by seeds simply pressed into surface of soil in moist position outdoors in autn.; cuttings of shoots 6 to 8 in. long inserted in moist soil in sheltered position in Nov.; layering shoots in autn. or spring.

Platanus-leaved Maple (*Acer platanoides*)—see *Acer*.

Platycerium (Elk's-horn Fern, Stag's-horn Fern, Australian Elk's-horn Fern, Wallich's Elk's-horn Fern).—*Ord.* *Filices*. Stove & greenhouse evergreen ferns. *Nat.* Australia, East Indies, Malay Peninsular. *Int.* 1808. *Species* cultivated, about 6. *Fronds* more or less broad, divided; resembles stag's horn. *Compost*, equal parts fibrous peat & sphagnum moss. *Position*, blocks of wood suspended from roof or sides of greenhouse or stove. *Place* plant on block of wood, cover roots with layer of moss & peat, & secure in position by means of copper wire. *Top-dress* annually with fresh peat & moss in Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately, Sept. to Mar. *Shade* from sun. *Temp.* for stove species, 55° to 65°, Oct. to Mar.; 70° to 80°, Mar. to Oct.; greenhouse species, 45° to 55°, Oct. to Mar.; 60° to 70°, Mar. to Oct. *Propagate* by offsets in Feb. or Mar.

Platycodon (Chinese Bell-flower).—*Ord.* *Campanulacæ*. Hardy herbaceous perennial. *Nat.* China, Mandschuria, Japan. *Int.* 1782. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, blue; July. *Soil*, ordinary rich. *Position*, sunny well drained borders or rockeries. *Plant*, Oct. to Ap. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy soil in temp. 55°, Mar. or Aug.; cuttings 3 in. long of young shoots, inserted singly in small pots of light sandy soil in temp. 55° in Mar. or Ap.; division of plants in Ap.

Platylebium (Flat Pea).—*Ord.* *Leguminosæ*. Greenhouse flowering shrubs. Evergreen. *Nat.* Australia. *Int.* 1790. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, yellow; May to Aug. *Compost*, three parts peat, one part loam & little silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Feb. or Mar. *Nip* off points of young shoots in spring to induce bushy growth. *Water* freely, Ap. to Sept.; moderately, Sept. to Ap. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Stand* plants outdoors from July to Sept. to mature flowering shoots for following year. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots of sandy peat in temp. of 55° to 65° in Mar. or Ap.; cuttings inserted in sandy soil under bell-glass in temp. 55°, Ap. to July.

Platyloma.—*Ord.* *Filices*. Greenhouse evergreen ferns. *Nat.* N. & S. America, Australia, New Zealand. *Int.* 1823. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Fronds*, narrow, once divided. *Compost*, equal parts loam, leaf-mould, peat, & sand, with a little charcoal & sandstone. *Pot* or plant, Mar. *Position*, well drained pots in shady part of greenhouse or in beds or rockeries in shade. *Water* moderately, Oct. to Feb.; freely afterwards. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to Sept., 60° to 65°. *Propagate* by spores sown on surface of sandy peat in shallow pan in temp. 70° to 80°, any time; division of plants in Feb. to Ap.

Platystemon (Californian Poppy, Cream Cups).—*Ord.* *Papaveracæ*. Hardy annual. *Nat.* California. *Int.* 1833. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow; July & Aug. *Soil*, good ordinary. *Position*, sunny beds,

borders, or rockeries. Sow seed $\frac{1}{2}$ in. deep in patches where required to grow in Ap. Thin seedlings 1 to 2 in. apart when $\frac{1}{2}$ in. high. Water freely in dry weather. Mulch with decayed manure or cocoanut-fibre refuse in June.

Platystigma.—*Ord.* Papaveraceæ. Half-hardy herbaceous perennial. *Nat.* California. *Int.* 1833. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, yellow; May. *Soil*, deep sandy loam. *Position*, sunny rockeries or warm well drained borders. *Plant*, Mar. or Ap. *Protect* in winter by placing layer of decayed manure or leaves around base of plant. *Propagate* by seeds sown in box of light sandy soil in cold greenhouse or frame in spring or outdoors in July, transplanting seedlings singly in small pots & keeping in cold frame until following Ap., then planting outdoors.

Plectranthus (Cock's-spur Flower).—*Ord.* Labiatae. Stove & greenhouse perennial herbs & shrubby plants. Flowering & orn. foliage. *Nat.* Australia, Cape Colony, Madagascar. *Int.* 1774. *Ht.* 9 in. to 3 ft. *Species* cultivated, 2 greenhouse perennials, 2 greenhouse shrubs, 1 stove perennial. *Flowers*, purple, lilac, blue; May to Sept. *Compost*, two parts sandy loam, one part leaf-mould, half a part sand. *Position*, pots close to glass in light part of stove or greenhouse. *Pot*, Feb. to Ap. *Water* freely, Ap. to Oct.; moderately afterwards. *Remove* points of shoots of *P. fruticosus* in spring to induce bushy growth. *Temp.*, for stove species, 55° to 65°, Sept. to Mar.; 70° to 80°, Mar. to Sept.; greenhouse species, 40° to 50°, Oct. to Mar.; 55° to 65°, Mar. to Oct. **WINDOW CULTURE** OF *P. FRUTICOSUS*: *Compost* as above. *Position*, light sunny window. *Pot*, Mar. or Ap. *Train* shoots to fan-shaped trellis. *Remove* points of young shoots in Mar. & Ap. if bushy plants are desired. *Water* freely, Ap. to Sept.; moderately afterwards. *Propagate* perennial species by seeds sown $\frac{1}{4}$ in. deep in shallow boxes or well drained pots of light sandy soil in temp. 65° to 75° in spring; division of plants, Feb. to Ap. Shrubby species by cuttings inserted singly in small pots filled with sandy soil placed under bell-glass in greenhouse or window, spring or sum.

Pleione (Indian Crocus).—*Ord.* Orchidaceæ. Stove deciduous epiphytal orchids. *Nat.* India. *Int.* 1837. *Species* cultivated, 5. *Flowers*, white, orange, crimson, purple, rose; Oct. to Jan. *Compost*, equal parts fibrous peat & loam, half a part each of finely chopped sphagnum moss & silver sand. *Position*, 5 or 6-in. pots or shallow pans, three parts filled with drainage, fully exposed to light & sun in warm greenhouse whilst growing, cool house when at rest. *Pot* directly after flowering, removing old compost from roots & shortening latter to 2 in. *Arrange* pseudo-bulbs 2 in. apart on surface raised 1 in. above rim in centre, & cover surface with sphagnum moss. *Place* plants on shelf in temp. 45° to 55° until Ap., then in temp. 65° to 75° until Sept., when replace in temp. 45° to 55°. *Water* freely when new leaves are half developed until Aug., then gradually discontinue, withholding it altogether from Sept. till new leaves are half-grown. *Apply* weak stimulants twice a week, May to Aug. *Growing period*, Dec. to Aug.; *resting period*, Sept. to Dec. *Propagate* by pseudo-bulb offsets in Nov.

Pleopeltis.—*Ord.* Filices. Stove evergreen ferns. *Nat.* Borneo, Malay Archipelago, Java, W. Indies, Brazil, Polynesia. *Int.* 1812. *Ht.* 6 to 12 in. *Species* cultivated, about 15. *Fronde* entire or once divided. *Compost*, equal parts loam, leaf-mould, peat & sand. *Position*, well drained pots or pans in shade. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Ap.; freely, Ap. to Oct. *Moistatmosphere* essential. *No* syringing required. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 60°. *Propagate* by spores sown on surface of fine sandy peat in well drained pans in temp. of 70° to 80° any time; division of plants at potting time.

Pleroma (Peruvian Glory Bush).—*Ord.* Melastomaceæ. Greenhouse evergreen flowering shrubs. *Nat.* Brazil. *Int.* 1816. *Ht.* 3 to 15 ft. *Species* cultivated, about 11. *Flowers*, violet, purple; sum. & winter. *Compost*, two parts turfy loam, one part peat, & one part charcoal & sand. *Position*, well drained pots, tubs, or beds, with shoots trained to trellis, or up pillars, rafters,

or walls. *Pot*, or plant, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* stimulants once a week, May to Sept. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 50° to 60°. *Propagate* by cuttings of firm side shoots 3 in. long inserted singly in small pots of sandy soil, under bell-glass or in propagator, in temp. 70° to 80°, Feb. to Sept.

Pleurisy-root (*Asclepias tuberosa*)—see *Asclepias*.

Pleurothallus.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* W. Indies, Tropical America. *Int.* 1826. *Ht.* 3 to 6 in. *Species* cultivated, about 5. *Flowers*, purple, green, yellow, red, crimson, brown; all the year round. *Compost*, sphagnum moss only. *Position*, small blocks of wood suspended from roof. *Place* layer of moss on block, then roots of plant, then another layer of moss, & secure with copper wire. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* blocks 2 or 3 times daily in sum.; once daily in winter & autn. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 60°. *Propagate* by division, Feb. to Mar.

Plum-coloured Christmas Rose (*Helleborus colchicus*)—see *Helleborus*.

Plum Fir (*Podocarpus andina*)—see *Podocarpus*.

Plum-fruited Juniper (*Juniperus drupacea*)—see *Juniperus*.

Plum Grape (*Vitis Labrusca*)—see *Vitis*.

Plum-leaved Thorn (*Crataegus prunifolia*)—see *Crataegus*.

Plum-tree (*Prunus domestica*)—see *Prunus*.

Plumbago (Leadwort, Cape Leadwort).—*Ord.* Plumbaginaceæ. Stove & greenhouse evergreen flowering shrubs & hardy herbaceous perennials. *Nat.* Cape of Good Hope, E. Indies, S. America, Mexico, S. Europe, China. *Int.* 1596. *Ht.* 1 to 15 ft. *Species* cultivated, 3 greenhouse, 4 stove, 3 hardy herbaceous; vars. 2. *Flowers*, white, blue, red, brown, violet; Ap. to Dec. **CULTURE OF STOVE SPECIES** (*P. rosea*, etc.) *Compost*, equal parts fibrous peat & leaf-mould, half a part each loam & sand. *Position*, pots, shoots trained to stakes or balloon trellis, or in borders, shoots trained to wall in light part of stove. *Pot*, Feb. to Ap. *Prune* shoots moderately in Jan. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Sept. *Shade* from sun. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. **CULTURE OF GREENHOUSE SPECIES** (*P. capensis*, etc.): *Compost*, two parts fibrous loam, half a part each of peat & silver sand. *Position*, pots, shoots trained to stakes or trellis; borders with shoots trained up rafters, pillars, or walls in light part of house. *Pot* or plant, Feb. or Mar. *Prune* shoots to within 1 in. of base immediately after flowering; flowers borne on points of shoots of current year's growth. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; very little afterwards. *Syringe* daily until flowering begins. *Apply* weak stimulants twice a week during flowering period. *Shade* only from very bright sun. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. **CULTURE OF HERBACEOUS SPECIES** (*P. Larpentæ*, etc.): *Soil*, ordinary light or sandy loam. *Position*, sunny rockery, margins of raised beds, or in masses in well drained borders. *Plant*, Nov., Mar. or Ap. *Water* freely in very dry weather. *Mulch* with decayed manure in Mar. *P. capensis* may be grown on sunny rockeries outdoors in sum. *Plant* out June, lift Sept. *Propagate* by seeds sown on surface of sandy peat & slightly covered with fine sandy soil in temp. 65° to 75° in Feb. or Mar.; cuttings of side shoots, 2 to 3 in. long, inserted singly in 2 in.-pots of sandy peat in temp. 60° to 70°, Feb. to Aug.; herbaceous species by division of roots, Nov. to Ap.

Plume-like Japan Cypress (*Retinospora plumosa*)—see *Retinospora*.

Plume Poppy (*Bocconia cordata*)—see *Bocconia*.

Plumiera (Frangipanni Plant, Jasmine Mango, Red Nosegay Tree).—*Ord.* Apocynaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical America, *Int.* 1690. *Ht.* 5 to 10 ft. *Species* cultivated, 8. *Flowers*, pink, white, yellow, red; fragrant; May to Sept. *Compost*, two parts sandy loam, one part

fibry peat, half a part silver sand. *Position*, well drained pots in light stove. *Pot*, Feb. to Ap. *Prune* straggling shoots moderately close immediately after flowering. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar., & until flowers appear. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by cuttings of ripe shoots, 2 to 3 in. long, inserted in small pots filled with sand under bell-glass in temp. 65° to 75° in Feb.

Plumy Bleeding Heart (*Dicentra eximia*)—see *Dicentra*.

Poa (Variegated Meadow Grass).—*Ord.* Gramminaceæ. Hardy perennial flowering & orn. foliaged grass. *Nat.* Europe (Britain). *Ht.* 6 in. to 3 ft. *Species* cultivated, 2. *Flowers* of *P. palustris* purplish or violet; borne in panicles. *Leaves* of *P. trivialis albo-vittata* erect, soft green & margined with white. *Soil*, ordinary. *Position*, margins of streams & ponds for *P. palustris*; edgings to sunny beds or borders, or in clumps in borders for *P. t. albo-vittata*. *Plant*, Oct., Nov., Mar. or Ap. **POT CULTURE OF P. T. ALBO-VITTATA**: *Compost*, two parts good ordinary soil, one part leaf-mould, half a part sand. *Position* in 4 or 5-in. pots in cold or cool greenhouse or window. *Pot*, Mar. or Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Repot* & divide annually. *Propagate* by division of plants, Mar. or Ap.

Pocock's Bladder Senna (*Colutea Pocockii*)—see *Colutea*.

Pod Fern (*Ceratopteris thalictroides*)—see *Ceratopteris*.

Podocarpus (Japanese Laurel, Totara Pine).—*Ord.* Corniferæ. Hardy & half-hardy evergreen trees. *Orn.* foliage. *Nat.* Chili, Cape of Good Hope, China, Japan, Tasmania, Nepaul, Australia. *Int.* 1774. *Ht.* 40 to 200 ft. *Species* cultivated, 3 hardy; 12 half-hardy. *Leaves*, linear, more or less long, leathery deep green. **CULTURE OF HARDY SPECIES**: *Soil*, good, deep loam, well drained. *Position*, sunny sheltered lawns. *Plant*, Oct., Nov., Mar. or Ap. **CULTURE OF HALF-HARDY SPECIES**: *Compost*, two parts loam, one part leaf-mould. *Position*, pots or tubs in light airy greenhouse. *Pot* or plant, Mar. or Ap. *Water* freely, May to Sept.; moderately afterwards. *Temp.*, Sept. to Ap., 45° to 55°; Ap. to Sept., 55° to 65°. *Propagate* by cuttings of firm young shoots inserted in small pots of sandy loam under bell-glass in temp. 60° to 70°, sum.

Podolepis.—*Ord.* Compositæ. Hardy annuals & half-hardy perennials. *Nat.* Australia. *Int.* 1803. *Ht.* 1 to 3 ft. *Species* cultivated, 2 annuals; 1 half-hardy perennial. *Flowers*, yellow, purple, lilac, white; June to Aug. **OUTDOOR CULTURE OF ANNUAL SPECIES**: *Soil*, ordinary. *Position*, sunny well drained beds or borders or rockeries. *Sow* seeds $\frac{1}{16}$ in. deep in well drained pots of light soil in temp. of 55° to 65° in Mar., transplanting seedlings outdoors in flowering position, end of May; or sow outdoors in sunny position end of Ap. where required to grow & flower, thinning seedlings to 3 in apart when $\frac{1}{2}$ in. high. **POT CULTURE OF ANNUAL SPECIES**: *Compost*, equal parts sandy loam, leaf-mould, & sand. *Fill* 5-in. pots to within $\frac{1}{2}$ in. of rim moderately firm with above compost; sow seeds thinly in Mar., & cover with sprinkling of fine soil. *Place* pots in temp. of 55° till seedlings have formed 3 or 4 leaves, when remove to cool greenhouse or cold frame. *Thin* seedlings to 1 in. apart. *Water* moderately until plants are 3 in. high, then freely. **CULTURE OF HALF-HARDY PERENNIAL**: *Soil*, sandy loam. *Position*, sunny rocky or borders, May to Sept. *Lift* & *repot* in Sept., & store away in greenhouse until following May. *May* be successfully treated as an annual also. *Propagate* half-hardy perennial species by division of plants in spring.

Podophyllum (Mexican Mandrake, May Apple, Podophyllum Plant, Raccoon-berry, Wild Duck-food, Wild Lemon, Himalayan May-flower).—*Ord.* Berberidaceæ. Hardy herbaceous perennials. *Nat.* India, N. America. *Int.* 1664. *Ht.* 6 to 12 in. *Species* cultivated, 2. *Flowers*, white; May. *Leaves*, large, shield-shaped; divided, ornamental. *Soil*, moist peat. *Position*, partially shaded borders, woods, marshes, or bog gardens. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap.

Poet's Laurel (*Laurus nobilis*)—see *Laurus*.

Poet's Narcissus (*Narcissus poeticus*)—see *Narcissus*.

Poinciana (Crimson Thread-flower, Barbadoes Pride, Royal Peacock flower).—*Ord.* Leguminosæ. Stove evergreen trees. Flowering & orn. foliage. *Nat.* W. Indies, Madagascar. *Int.* 1691. *Ht.* 10 to 30 ft. *Species* cultivated, 2. *Flowers*, orange, scarlet; *sum.* *Leaves*, fern-like, green, graceful. *Compost*, two parts peat or loam, one part leaf-mould, half a part silver sand. *Position*, pots in light part of stove or outdoors during July & Aug. *Pot.* Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds sown in light sandy soil in temp. of 75° to 85° in spring; cuttings of short young shoots inserted singly in small pots filled with pure sand under bell-glass in temp. 75° to 85° in sun.

Poinsettia (Mexican Easter Flower, Mexican Flame Leaf, Lobster Flower).—*Ord.* Euphorbiacæ. Stove evergreen flowering plants. *Nat.* Mexico. *Int.* 1834. *Ht.* 1 to 4 ft. *Species* cultivated, 1; varieties several. *Flowers*, insignificant. *Bracts*, scarlet, white; winter. *Foliage*, green or variegated with creamy white. *Compost*, four parts fibrous loam, one part decayed cow manure, & half a part silver sand. *Position*, pots or beds with shoots transferred to back wall of stove. **YOUNG PLANTS:** *Place* old plants in temp. 65° to 75° in May. Remove young shoots when 2 to 3 in. long, insert singly in 2-in. pots filled with sandy loam & peat, & plunge to the rims in bottom heat of 85°, under a bell-glass or in propagator. When rooted, place singly in 4-in. pots, plunge again in bottom heat for a few days, then remove to shelf near glass. As soon as well rooted, transfer to 6 or 8 in. pots, keep near glass for week or so, then gradually harden, place in cold sunny frame until Sept., when remove to temp. 55°. *Shade* from mid-day sun when in cold frame. *Water* freely. *Syringe* twice daily. *Ventilate* freely on fine days. *Transfer* plants into temp. 60° to 65° end of Sept. *Water* moderately. *Apply* stimulants twice a week. After flowering remove to a temp. of 40° to 45°, keep roots quite dry & store pots on their side under staging. **OLD PLANTS:** *Prune* shoots, unless required for producing cuttings, to second latent bud or eye from their base, end of Ap. When new shoots form 1 in. long, turn plants out of their pots, remove old soil from roots, cut off the straggling ends of latter, & repot in pots just large enough to take roots and little compost. *Place* in temp. 65° to 75° from pruning time. *Rep't* into larger size when small pots are filled with roots. *Place* in cold sunny frame or pits during July & Aug. *Water* & syringe freely. *R'move* to temp. 55° to 60°, Sept.; 60° to 70°, Oct. onwards. *Apply* stimulants twice a week Oct., until bracts are fully developed, then cease. After flowering, treat as advised for young plants. **BEDS:** *Compost*, as above. *Plant*, July. *Train* the shoots thinly to wall. *Water* freely while growing; after flowering keep quite dry. *Prune* shoots to within one latent bud of their base, end of Sept. *Temp.*, Ap. to Sept., 65° to 75°; Sept. to Ap., 55° to 60°. *Average height* of a well-grown young plant 12 to 18 in. *Average diameter* of a well-grown head of bracts 10 to 15 in. *Suitable manures:* Half oz. guano or Clay's fertilizer to 1 gallon of water, or teaspoonful of Standen's manure sprinkled on surface of soil once in ten days.

Pointed-flowered Adam's Needle (*Yucca acuminata*)—see *Yucca*.

Pointed-leaved Cotonaster (*Cotoneaster acuminata*)—see *Cotoneaster*.

Pointed-leaved White Alder (*Clethra acuminata*)—see *Clethra*.

Poison Ash (*Chionanthus virginica*)—see *Chionanthus*.

Poison Bay Tree (*Illicium Floridanum*)—see *Illicium*.

Poison Elder (*Rhus venenatum*)—see *Rhus*.

Poison Oak (*Rhus toxicodendron*)—see *Rhus*.

Poivrea.—*Ord.* Combretacæ. Stove evergreen climbers. *Nat.*

Madagascar. *Int.* 1818. *Species* cultivated, 1. *Flowers*, scarlet; June to Dec. *Compost*, two parts loam, one part peat & sand. *Position*, pots, tubs, or borders in plant stove, shoots trained to pillars or roof. *Pot*, Mar. *Prune* side shoots to within 2 in. of base after flowering & cut away all weak ones. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily, Mar. to Aug. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of side shoots 3 in. long, removed with slight portion of stem attached, & inserted in well drained pot of sandy soil in temp. 85° in sum.

Poke (*Phytolacca decandra*)—see *Phytolacca*.

Poke Milk-weed (*Asclepias phytolaccoides*)—see *Asclepias*.

Polemonium (Jacob's Ladder, Dwarf J. L., Creeping J. L., Dense-flowered J. L., Richardson's J. L., Greek Valerian, Charity).—*Ord.* Polemoniaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Siberia, Himalayas, Rocky Mountains, Dahuria, Mexico. *Int.* (foreign species) 1768. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 5; varieties several. *Flowers*, blue, purple, white; Ap. to Aug. *Soil*, good ordinary or deep rich well drained loam. *Position*, open sunny borders for *P. cæruleum* & vars.; sunny well drained rockeries for other species. *Plant*, Oct., Nov., Mar. or Ap. *Cut* off flower stems immediately after flowering. *Top-dress* annually in spring with well decayed manure or leaf-soil. *Propagate* *P. cæruleum* by division of plants in Oct. or Nov.; other species by division in Mar. or Ap.

Polianthes (The Tuberose).—*Ord.* Amaryllidaceæ. Half-hardy bulbous plant. Flowering. *Nat.* Mexico. *Int.* 1629. *Ht.* 3 ft. *Species* cultivated, 1; varieties several. *Flowers*, white; fragrant; double; autn. & winter. *Compost*, two parts fibrous loam, one part of equal proportions of leaf-mould, decayed manure & coarse silver sand. *Pot*, African kinds in Oct., Nov. & Dec., to flower following autn.; American or Pearl varieties in Jan., Feb., Mar. & Ap., to flower following winter & spring. *Plant* bulbs about two-thirds of their depth singly in a 5-in. pot, or three in a 6-in. size. *Pot* firmly. *After treatment*: (a) *Plunge* pots to their rims in bottom heat, 75° to 85°, & give one application of water only until growth begins, then remove to a shelf near the glass in temp. 55° to 65°, & remove to temp. 50° to 55° when in bloom. (b) *Place* pots on bed of coal ashes in cold frame, cover with 4 in. cocoanut-fibre refuse, & give no water until growth begins. After this, remove the fibre refuse, water moderately, & transfer most forward plants to the greenhouse. (c) *Pot* bulbs in Ap., plunge pots just above rim in a sunny spot in garden, keep moderately moist, lift pots in Sept. or Oct., & place in greenhouse to flower. *Water* freely when in full growth. *Syringe* foliage frequently. *Apply* stimulants ($\frac{1}{2}$ oz. guano or Clay's fertilizer) once a week when growing freely. *After* flowering, bulbs of no further use. *OUTDOOR CULTURE*: *Soil*, ordinary rich. *Position*, warm sunny border. *Plant* bulbs 3 in. deep & 6 in. apart, Mar. to Ap., to flower in Aug. & Sept. *Plant* fresh bulbs annually. *Propagate* by offsets.

Polished Saxifrage (*Saxifraga polita*)—see *Saxifraga*.

Polyanthus (*Primula elatior*)—see *Primula*.

Polyanthus Daffodil (*Narcissus tazetta*)—see *Narcissus*.

Polyanthus Narcissus (*Narcissus tazetta*)—see *Narcissus*.

Polybotrya.—*Ord.* Filices. Stove evergreen ferns. *Nat.* W. Indies, Brazil, Peru, Ecuador, Mexico, Luzon. *Int.* 1823. *Ht.* 2 ft. *Species* cultivated, about 12. *Fronde*s, twice or thrice divided. *Compost*, equal parts peat, loam & leaf-mould, sand & charcoal. *Pot*, Feb. or Mar. *Water* freely, spring & sum.; moderately other times. *Temp.*, stove species, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°; greenhouse species, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 50°. *Propagate* by division of roots at potting time, or by spores sown on surface of pans filled with fine peat, & placed in temp. 85° any time.

Polygala (Milk-wort).—*Ord.* Polygalaceæ. Hardy herbaceous perennials, greenhouse & hardy evergreen flowering shrubs. *Nat.* Europe, S. Africa, N. America. *Int.* 1658. *Ht.* 6 in. to 3 ft. *Species* cultivated, 1 hardy evergreen shrub (*P. chamaebuxus*); 2 perennials (*P. paucifolia* & *P. senega*); 2 greenhouse evergreens (*P. myrtifolia grandiflora* & *P. oppositifolia*). *Flowers*, purple, yellow, & white, Mar. to Sept. **CULTURE OF HARDY EVERGREEN SHRUB:** *Soil*, sandy peat. *Position*, sunny border or rockery. *Plant*, Oct., Nov. or Ap. *No pruning* required. **CULTURE OF PERENNIAL SPECIES:** *Soil*, ordinary. *Position*, dryish sunny borders. *Pant*, Oct., Nov., Mar. or Ap. *Cut down* flowering stems in Oct. *Lift* & replant every three or four years. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts fibrous peat, one part silver sand. *Position*, well drained pots in cool, airy greenhouse. *Pot*, Feb. or Mar. *Prune* straggly shoots only into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *No stimulants* required. *Shade* unnecessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* perennials by division in Mar. or Ap.; hardy evergreen species by cuttings inserted in sandy peat under hand-light or in cold frame in autn.; or by suckers removed in Sept.; greenhouse species by cuttings of young shoots inserted in small pots of sandy peat under bell-glass in temp. 55° to 65° in spring.

Polygonatum (Solomon's Seal, David's Harp, Fraxinell, Ladder-to-Heaven, Lady's Seal, Lily of the Mountain).—*Ord.* Liliaceæ. Hardy herbaceous perennials. *Nat.* (Solomon's Seal) Europe (Britain); others, Japan, India, Siberia, & N. America. *Ht.* 2 to 4 ft. *Species* cultivated, 8. *Flowers*, white, rose, lilac & green; Ap. to June. *Soil*, ordinary light mould. *Position*, partially shaded beds, borders, or woodlands. *Plant*, Oct., Nov. or Mar. *Top-dress* annually with decayed manure in Mar. *Apply* stimulants occasionally in sum. **POT CULTURE OF SOLOMON'S SEAL:** *Pot* roots in ordinary light soil in 6 or 8 in. pots in Nov. *Cover* with cocoanut-fibre refuse outdoors or in frame until growth begins, then remove to heated or cold greenhouse to flower. *Water* freely. *Propagate* by division of roots in Oct., Nov. or Mar.

Polygonum (Willow Grass, Knob Grass, Knob Weed, Persicary).—*Ord.* Polygonaceæ. Hardy annuals, herbaceous perennials, greenhouse evergreen shrubs. *Nat.* Australia, China, India, Alps, Siberia, Mexico, N. America, Sachalin Islands, Britain. *Int.* (foreign species) 1640. *Ht.* 6 to 8 ft. *Species* cultivated, 1 annual; 11 hardy perennials; 3 greenhouse. *Flowers*, red, white, purple & rose, sum. *Habit*, graceful. **CULTURE OF ANNUAL SPECIES** (*P. orientale*): *Soil*, ordinary. *Position*, sunny well drained borders. *Sow* seeds $\frac{1}{8}$ in. deep in light soil in temp. 65° in Mar., planting seedlings outdoors in June; or sow in open border in Ap. *Water* freely in dry weather. *Apply stimulants* during flowering period. **CULTURE OF PERENNIAL SPECIES** (*P. cuspidatum*, *P. sachalinense*, *P. vacciniifolium*, etc.): *Soil*, good rich ordinary. *Position* of *P. cuspidatum* & *P. sachalinense* in large sunny or shady moist borders, as isolated specimens on lawns, or on margins of ponds. *P. vacciniifolium* in ordinary sunny borders or on rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure annually in Mar. *Apply stimulants* occasionally during July & Aug. *Water* copiously in dry weather. **CULTURE OF GREENHOUSE SPECIES** (*P. capitatum*, etc.): *Compost*, two parts loam, one part peat, half a part silver sand. *Pot*, Mar. *Position*, well drained pots in cool greenhouse. *Water* copiously, Ap. to Sept.; moderately afterwards. *Shade* from sun. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. *Repot* annually. *Propagate* perennials by seeds as advised for annuals, or by division of roots in Oct. or Mar.; greenhouse species by cuttings inserted in sandy peat under bell-glass in temp. 65° to 75° in spring.

Polypodium (Common Polypody, Alpine Polypody, Lime-stone Polypody, Welsh Polypody, Oak Fern, Beech Fern).—*Ord.* Filices. Stove, greenhouse & hardy ferns. Evergreen & deciduous. *Nat.* Europe (Britain), Tropical America, W. Indies, New Zealand, China, S. America, India. *Int.*

(foreign species) 1793. *Species* cultivated, 5 stove, 10 greenhouse, 5 hardy. **CULTURE OF STOVE AND GREENHOUSE SPECIES:** *Compost*, equal parts loam, peat, leaf-mould, & silver sand. *Pot*, Feb. to Ap. *Position*, pots, baskets, or rock beds. *Shade* from sun. *essential*. *Moist* atmosphere, Feb. to Sept.; moderately moist afterwards. *No* syringing required. *Water* freely, Mar. to Sept.; moderately, Sept. to Mar. *No* stimulants. *Temp.* for greenhouse species, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°; stove species, Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. **CULTURE OF HARDY SPECIES:** *Soil*, equal parts fibry peat, decayed turfy loam, leaf-mould, & coarse silver sand for *P. vulgare* & vars.; equal parts peat, loam, coarse sand & small lumps of sandstone for *P. dryopteris* (Oak Fern) & *P. phegopteris* (Beech Fern); two-thirds sandy fibry loam, one-third pounded limestone for *P. Robertianum*. *Position*, shady fernery, bank, or rockery for *P. vulgare*; partially shaded dryish rockery for *P. dryopteris* & *P. phegopteris*; dry partially shady rockery for *P. Robertianum*; other species anywhere in shade in ordinary soil. *Plant*, Ap. *Water* in dry weather. *Top-dress* annually in Ap. with the special soils described above. **POT CULTURE OF HARDY SPECIES:** *Composts* as above. *Pot*, Mar. *Position*, shady, airy cold greenhouse, room or frame. *Water* evergreen kinds freely in sum., moderately at other times; deciduous kinds freely whilst growing; occasionally after foliage dies down. *Repot* annually. *Propagate* by spores sown on surface of shallow pan or box filled with fine sandy peat, covered with pane of glass & placed in temp. 65° to 75°; division of roots in Mar. or Ap.

Polypody (*Polypodium vulgare*)—see Polypodium.

Polystichum (Prickly & Soft Shield Ferns).—Ord. Filices. Greenhouse & hardy evergreen ferns. *Nat.* Europe (Britain), N. America, East Indies, Assam, Japan, Madeira, W. Indies, Luzon, Columbia, Brazil, Mauritius, Tasmania, New Zealand. *Int.* (foreign species) 1793. *Ht.* 9 in. to 4 ft. *Species* cultivated, about 23; varieties many. *Fronde*s, feather-shaped. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts peat, one part loam, silver sand, & charcoal. *Position*, well drained pots or beds in shady greenhouse. *Pot* or plant, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to Sept., 55° to 65°. **OUTDOOR CULTURE OF HARDY SPECIES:** *Compost*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. **INDOOR CULTURE OF HARDY SPECIES:** *Compost*, equal parts peat & loam, half part sand. *Position*, pots in cold frame, greenhouse or dwelling room. *Shade* from sun essential. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.

Pomegranate-tree (*Punica Granatum*)—see Punica.

Ponederia (Pickerel Weed).—Ord. Pontederiaceæ. Hardy aquatic perennials. *Nat.* N. America. *Int.* 1579. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, blue, white, green; June to Oct. *Soil*, rich loam. *Position*, shallow ponds or tanks, containing water, 6 to 12 in. in depth. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by division of roots any time in spring.

Pontic Azalea (*Azalea pontica*)—see Azalea.

Pontic Daphne (*Daphne pontica*)—see Daphne.

Pontic Milk-Vetch (*Astragalus ponticus*)—see Astragalus.

Pontic Rhododendron (*Rhododendron ponticum*)—see Rhododendron.

Poor-man's Rhubarb (*Thalictrum flavum*)—see Thalictrum.

Pop's-head (*Melocactus communis*)—see Melocactus.

Poplar-leaved Fig-tree (*Ficus religiosa*)—see Ficus.

Poplar-leaved Stone-crop (*Sedum populi-folium*)—see Sedum.

Poppy Anemone (*Anemone coronaria*)—see Anemone.

Poppy-Mallow (*Callirrhoe involucrata*)—see Callirrhoe.

Poppy Oil-plant (*Papaver somniferum*)—see Papaver.

Populus (Aspen-tree, Cotton Wood, Abbey, Abele-tree, Poplar).—*Ord.* Salicaceæ. Hardy deciduous trees. *Orn.* foliage. *Nat.* Europe (Britain), N. America, Egypt, Caucasus, Turkestan, China, Siberia. *Int.* (foreign species) 1692. *Ht.* 30 to 80 ft. *Species* cultivated, 10; varieties many. *Flowers*, catkin-shaped; *Mar.* & *Ap.* *Leaves*, roundish, lobed, toothed, green, whitish beneath. *Soil*, ordinary moist. *Position*, margins of ponds, lakes, rivers, moist shrubberies or woods. *P. monilifera* (Black Italian Poplar) & *P. fastigiata* (Black Poplar), good trees for forming screens in town or suburban gardens. *Plant*, Oct. to Feb. For screens, plant 4 to 6 ft. apart. *Prune*, Nov. to Feb. *Dry* soils not suitable. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in moist border in autumn; cuttings of firm shoots, 8 in. long, inserted in ordinary soil outdoors in Oct. or Nov.; layering shoots in Oct.; suckers, Oct. to Feb.; weeping kinds by grafting on common poplars in Mar.

Portenschlag's Bell-flower (*Campanula Portenschlagiana*)—see Campanula.

Portlandia.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* Jamaica. *Int.* 1775. *Ht.* 5 to 12 ft. *Species* cultivated, 30. *Flowers*, scarlet, white; *May* to *Sept.* *Compost*, equal parts fibrous loam & leaf-mould & half a part silver sand. *Plt.*, Feb. or *Mar.* *Position*, well drained pots in partially shaded part of stove. *Prune* into shape immediately after flowering. *Water* copiously, *Ap.* to *Sept.*; moderately afterwards. *Syringe* twice daily, *Mar.* to *Oct.*; once afterwards. *Temp.*, *Mar.* to *Sept.*, 70° to 85°; *Sept.* to *Mar.*, 60° to 70°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass in temp., 75° to 85° in sum.

Port Orford Cedar (*Cupressus Lawsoniana*)—see Cupressus.

Portugal Broom (*Genista lusitanica*)—see Genista.

Portugal Cypress (*Cupressus pendula*)—see Cupressus.

Portugal Laburnum-tree (*Cytisus albus*)—see Cytisus.

Portugal Laurel (*Cerasus lusitanica*)—see Cerasus.

Portugal Myrtle (*Myrtus communis lusitanica*)—see Myrtus.

Portugal Quince-tree (*Cydonia vulgaris lusitanica*)—see Cydonia.

Portugal Wood Daisy (*Bellis sylvestris*)—see Bellis.

Portulaca (Purslane Sun Plant).—*Ord.* Portulacacæ. Hardy & half-hardy annual flowering & edible-leaved plants. *Nat.* (Sun Plant) Chili; (Purslane) S. Europe. *Int.* (Purslane) 1582; (Sun Plant) 1827. *Ht.* 3 to 6 in. *Species* cultivated, 1 hardy, 1 half-hardy. *Flowers*, rose, crimson, yellow, white; *June* to *Sept.* *Leaves* of Purslane form an excellent summer salading. **CULTURE OF HALF-HARDY ANNUAL SPECIES** (*P. grandiflora* & vars.): *Soil*, good ordinary. *Position*, sunny rockeries, raised beds or borders. *Sow* seeds thinly on surface of light sandy soil in well drained pot, box, or pan, lightly cover with fine soil & place in temp. 65° in *Mar.* *Transplant* seedlings when three leaves form singly into 2-in. pots, gradually harden off, & plant outdoors end of *May.* *Water* in dry weather. *Plant* 3 in. apart each way. **POT CULTURE**: *Compost*, equal parts loam, leaf-mould, & coarse silver sand. *Raise* plants from seeds as advised above. *Transplant* seedlings 1 in. apart in 5-in. pots, well drained & filled with above compost. *Grow* near glass in temp. 55° to 65°. *Water* freely. *Apply* weak stimulants when in flower. **CULTURE OF PURSLANE** (*P. oleracea*): *Soil*, light, rich ordinary. *Position*, sunny well drained borders. *Sow* seeds thinly broadcast, middle of *Ap.*, lightly rake in and keep well watered. To ensure a succession, sow at intervals of a month up to *Aug.* *Gather* shoots when 2 to 3 in. long, cutting them off close to the ground.

Posoqueria.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs.

Nat. Brazil, French Guiana, Caracas. *Int.* 1815. *Ht.* 5 to 20 ft. *Species* cultivated, 7. *Flowers*, white, crimson, pink; fragrant; Ap. to Aug. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or plant, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom) Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long inserted in well drained pots of sandy peat under bell-glass in temp. 75° to 85°, Jan. to Ap.

Post Oak (*Quercus obtusiloba*)—see *Quercus*.

Potato (*Solanum tuberosum*)—see *Solanum*.

Potato Oil-plant (*Solanum tuberosum*)—see *Solanum*.

Potato Onion (*Allium cepa aggregatum*)—see *Allium*.

Potato Vine (*Ipomoea pandurata*)—see *Ipomoea*.

Potentilla (Cinquefoil).—*Ord.* Rosaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. America, Himalayas, Siberia, California. *Int.* (foreign species) 1640. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 27. Double potentillas are hybrids between *P. insignis* & *P. argyrophylla atrosanguinea*. *Flowers*, white, yellow, crimson, scarlet; Mar. to Sept. *Soil*, ordinary deep rich sandy. *Position*, sunny rockeries for dwarf species (*P. alba*, *P. alpestris*, *P. ambigua*, *P. calabria*, *P. nitida*, & *P. pyrenaica*); sunny borders for tall kinds (*P. argyrophylla atrosanguinea* & vars., *P. fruticosa*, etc.) *Plant*, Oct., Nov., Mar. or Ap. *Mulch* tall kinds with decayed manure annually in Mar. *Water* copiously in dry weather. *Apply* stimulants occasionally during flowering period. *Lift*, divide, & replant border kinds in fresh soil every 3 or 4 years. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in shallow pans or boxes of light sandy soil in temp. 55° to 65°, Mar., transplanting seedlings outdoors in May or June; or similar depth in partially shaded border outdoors in Ap.; division of roots, Oct., Nov., Mar. or Ap.

Poterium (Burnet).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green, purple; sum. *Leaves* used for flavouring soups, salads, & wines. *Soil*, ordinary light. *Position*, sunny dryish bed or border. *Plant*, 6 in. apart in rows 8 in. asunder, Feb. *Water* freely in dry weather. *Remove* flower stems directly they appear. *Roots* to be lifted & replanted annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills 8 in. apart, Mar., Ap. or Sept., thinning seedlings when 2 in. high, 6 in. apart.

Pot-herb Thyme (*Thymus vulgaris*)—see *Thymus*.

Pothos.—*Ord.* Aroidaceæ. Stove evergreen climbing shrubs. *Orn.* foliage. *Nat.* Solomon Islands, Borneo, China. *Int.* 1821. *Ht.* 1 to 6 ft. *Species* cultivated, about 3. *Leaves*, roundish or lance shaped, green, or variegated with creamy yellow. *Compost*, equal parts rough peat, sphagnum moss, charcoal, & coarse sand. *Position*, pots with shoots trained to old tree stems, trunks of tree ferns or walls. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* freely all the year round. *Temp.*, Sept. to Mar., 60° to 65°; Mar. to Sept., 80° to 85°. *Shade* from sun essential. *Propagate* by division of roots, Feb. or Mar.

Pot Marigold (*Calendula officinalis*)—see *Calendula*.

Pot Marjoram (*Origanum onites*)—see *Origanum*.

Prairie Lily (*Mentzelia ornata*)—see *Mentzelia*.

Prairie Rose (*Rosa setigera*)—see *Rosa*.

Prairie Sun-flower (*Helianthus rigidus*)—see *Helianthus*.

Pratia.—*Ord.* Campanulaceæ. Hardy herbaceous perennial trailing plants. *Nat.* New Zealand, Falkland Islands. *Int.* 1879. *Species* cultivated, 2. *Flowers*, white, violet; June to Oct., succeeded by violet-coloured berries.

OUTDOOR CULTURE: *Soil*, two parts peat, one part leaf-mould & little sand. *Position*, sunny well drained rockeries. *Plant*, Mar. or Ap. *Water* freely in dry weather. **POT CULTURE:** *Compost*, two parts sandy loam, half a part each leaf-mould & silver sand. *Pot*, Mar. *Position*, cool or cold greenhouse, frame or window. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants occasionally when flowering. *Shade* from midday sun. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in equal parts loam, leaf-mould, & sand in temp. 85°, Mar.; cuttings of young shoots inserted in well drained pots, July to Sept., & stored in cold frame or greenhouse until Mar., then planted outdoors.

- Preacher-in-the-Pulpit** (*Orchis spectabilis*)—see *Orchis*.
Pretty Grass (*Calochortus pulchellus*)—see *Calochortus*.
Pretty Mariposa Lily (*Calochortus pulchellus*)—see *Calochortus*.
Pretty St. John's-wort (*Hypericum amœnum*)—see *Hypericum*.
Prickly Artichoke (*Cynara cardunculus*)—see *Cynara*.
Prickly Ash (*Xanthoxylon fraxineum*)—see *Xanthoxylon*.
Prickly Box Tree (*Ruscus aculeatus* & *Lycium barbarum*)—see *Ruscus* & *Lycium*.
Prickly Cedar (*Juniperus oxycedrus*)—see *Juniperus*.
Prickly Custard-apple (*Anona muricata*)—see *Anona*.
Prickly Fir (*Abies morinda*)—see *Abies*.
Prickly-fruited Gherkin Cucumber (*Cucumis anguria*)—see *Cucumis*.
Prickly Heath (*Pernettya angustifolia*)—see *Pernettya*.
Prickly Ivy (*Smilax aspera*)—see *Smilax*.
Prickly-leaved Dragon's-head (*Dracocephalum peregrinum*)—see *Dracocephalum*.
Prickly Pear-tree (*Opuntia vulgaris*)—see *Opuntia*.
Prickly Pettigree (*Ruscus aculeatus*)—see *Ruscus*.
Prickly Poppy (*Argemone mexicana*)—see *Argemone*.
Prickly-seeded Spinach (*Spinacia oleracea spinosa*)—see *Spinacia*.
Prickly Shield Fern (*Polystichum aculeatum*)—see *Polystichum*.
Prickly Thrift (*Acantholimon glumaceum*)—see *Acantholimon*.
Prickly-withe (*Cereus triangularis*)—see *Cereus*.
Prick-wood (*Cornus sanguinea* & *Euonymus europæus*)—see *Cornus* & *Euonymus*.
Pride-of-Barbadoes (*Cæsalpinia pulcherrima*)—see *Cæsalpinia*.
Pride-of-China (*Melia azedarach*)—see *Melia*.
Pride-of-Columbia (*Phlox speciosa*)—see *Phlox*.
Pride-of-India (*Melia azedarach*)—see *Melia*.
Prim-fruit (*Ligustrum vulgare*)—see *Ligustrum*.
Primrose (*Primula acaulis*)—see *Primula*.
Primrose-leaved Bell-flower (*Campanula primulæfolia*)—see *Campanula*.

Primrose-Peerless (*Narcissus biflorus*)—see *Narcissus*.
Primrose Sunflower (*Helianthus annuus* var.)—see *Helianthus*.
Primula (*Auricula*, *Ox-lip*, *Primrose*, *Polyanthus*, *Cowslip*).—*Ord.* *Primulacæ*. Greenhouse & hardy perennial herbs. **AURICULA:** *Nat.* European Alps. *Int.* 1596. *Ht.* 4 in. *Flowers*, various colours; spring. *Alpine* type have blooms one colour, white or yellow eye, stems smooth & free from powder. *Florists'* type, stems & blooms covered with mealy powder; blooms with more than one colour, & white, grey, or green-edged petals. *Properties* of florists' auricula: Stem erect, elastic, carrying truss well above foliage; stalk proportionately long to size of petals; pips (blooms) seven to each truss, round; anthers, bold; eye, white, smooth & round; colours, well defined,

rich; edges, distinct. *Compost*, two parts turfy loam, one part cow manure, leaf-mould, half a part silver sand. *Position*, choice kinds in 3 in. pots in airy frame or cool greenhouse; others in rich soil in shady borders. *Pot & plant*, Feb. or Mar. *Water* those in pots moderately in winter; freely other times. *Top-dress* with rich soil in Mar. plants that were not repotted. *Apply* liquid manure in a weak state to plants in flower. *Propagate* by seeds sown in pans of light rich soil, just covered with fine soil, in Mar., in cold frame or greenhouse; by offsets in Feb. **CHINESE PRIMULA** (*P. sinensis*): *Nat.* China. *Int.* 1820. *Ht.* 6 to 9 in. *Species* cultivated, 1; varieties numerous. *Flowers*, various; Sept. to Ap. *Compost*, one part fibrous loam, half a part each of leaf-mould & decayed cow manure, half a part silver sand. *Sow* seeds in May on surface of a compost of two parts leaf-mould & one part loam, half a part sand, pressed moderately firm in a shallow pan or 6-in. pot, half filled with drainage. *Cover* seeds thinly with similar soil. *Place* pane of glass over pot or pan & put in temp. 55° to 65°. *Shade* from sun. *Keep* soil just moist. *Transplant* seedlings when three leaves form 1 in. apart in 3-in. pots, well drained & filled with compost advised for seeds. Still keep in temp. 55° to 65°. When leaves of seedlings meet each other, place singly in 2-in. pots, keep in same temp. for a week, then transfer to cold frame. *Shade* from sun. *Admit* air freely. *Sprinkle* foliage in evening. *Transfer* to 5-in. pots when well rooted. *Re-place* in frame, shade from sun, water moderately, & sprinkle foliage as before. *Apply* liquid soot & cow or sheep manure—1 bushel of latter & 1 peck of former to 36 gallons of water—diluted with two-thirds water twice a week when well rooted. *Water* freely. Remove to temp. 50° to 55° in Sept. Admit air freely on fine days. Nip off first truss of bloom if not required to flower before Nov. *Temp.* for flowering 50° to 55°. When potting, allow base of leaves to just touch the compost. *Pot* moderately firm. *Suitable artificial manures*: (1) $\frac{1}{2}$ oz. each sulphate of ammonia & kainit to 2 gall. of water. (2) Teaspoonful of Clay's fertilizer to 1 gall. of water. To be applied twice a week to plants established in flowering pots. (3) Half a teaspoonful of Standen's manure sprinkled on surface of soil in each pot once a fortnight. Single flowered kinds best raised from seed annually, rejecting old plants after flowering. *Sow* in June for spring flowering. *Double varieties* require to be propagated annually by cuttings inserted singly in small pots filled with equal parts leaf-mould, loam, & sand, placed in temp. 65° to 70°, after flowering; or by division of plants in Ap. Culture same as advised for seedlings. *Temp.* for flowering 55° to 60°. *Semi-double varieties* raised from seed as advised for singles. **P. OBCONICA**: *Nat.* Central China. *Int.* 1882. *Ht.* 6 to 12 in. *Flowers*, lilac; all the year round. *Compost & mode* of raising from seed & general treatment same as advised for *P. sinensis*. *Temp.* for flowering 45° to 55°. *Top-dress* old plants with decayed cow manure in Feb. to promote spring flowering. *Repot* old plants in Mar. to flower in sum. *Old plants* may also be divided in Mar. **P. CORTUSOIDES** SIEBOLDI. Hardy herbaceous perennial. *Nat.* Japan. *Int.* 1865. *Ht.* 8 to 12 in. *Flowers*, various; Mar. to June. *Compost*, equal parts fibry loam, leaf-mould, thoroughly decayed cow manure & coarse silver sand. *Position*, sunny rockery, or well drained pots or pans in cold frame or greenhouse. *Plant* outdoors, Mar. *Mulch* with cocoanut-fibre refuse or decayed manure in Ap. *Water* freely in pots, Mar. to Sept.; moderately, Sept. to Nov.; keep dry afterwards. *Repot* Feb. or Mar. *Apply* stimulants advised for *P. sinensis* when growing. **MISCELLANEOUS SPECIES**: *P. amana*, ordinary soil, sheltered rockery or border; *P. capitata*, moist loam, shady border; *P. cortusoides*, light rich soil, sunny rockery or border; *P. denticulata* & *P. purpurea*, rich loam, shady border; *P. farinosa* & *P. scoticz*, sandy loam & peat, moist crevices of rockery; *P. Allioni* & *P. Clusii*, loam & leaf-mould, sunny rockery; *P. japonica*, deep rich loam, shady border; *P. viscosa* & *P. latifolia*, sandy peat, sunny rockery; *P. luteola*, leaf-mould & moist loam, partially shady rockery; *P. marginata*, leaf-mould & loam, sunny rockery; *P. minima*, sandy peat & loam, sunny rockery; *P. involucrata* & *P. Munroi*, boggy peat, moist border; *P. Parryi*,

moist loam & peat, partially shady border; *P. rosea*, rich loam, moist shady rockery or border; *P. sikkimensis*, deep moist loam, shady rockery; *P. Stuarti*, light soil, sunny rockery; *P. viscosa* & *P. nivalis*, peat, loam, & sand, sunny rockery. *Plant*, Mar. or Ap. *P. FLORIBUNDA* & *P. VERTICILLATA*: *Compost*, equal parts sandy fibrous loam & leaf-mould, half a part silver sand. *Position*, well drained pots in light airy greenhouse. *Pot* after flowering. *Flowering period*, spring. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 50° to 55°. *Water* freely, Mar. to Oct.; moderately afterwards. Apply stimulants as advised for *P. sinensis*. *PRIMROSE* (*P. vulgaris*): Hardy herbaceous perennial. *Nat.* Britain. *Soil*, ordinary rich moist. *Position*, partially or wholly shaded beds & borders. *Plant*, Oct., Nov., Feb. & Mar. *Mulch* surface of beds containing choice sorts with decayed manure in Feb. *Lift* those grown in flower beds directly after flowering, divide & replant 6 in. apart each way in shady border until Oct., then replant in beds. *Pot Culture*, as advised for Polyanthus. *POLYANTHUS* (*P. variabilis*): Hardy herbaceous perennial. *Nat.* Britain. Supposed to be a hybrid between the primrose and cowslip. *Flowers*, various; spring. *CLASSIFICATION*: *Gold-laced*, having centre and edges of bloom golden; *Fancy*, blooms of various hues; *Hose-in-Hose*, semi-double, one bloom growing out of another; *Jack-in-the-Green*, bloom surrounded by a collar like calyx; *Pantaloons*, small, curiously-coloured blooms. *Properties of Gold-laced Polyanthus*: *Pip* (bloom) perfectly flat and round, slightly scalloped on edge, and divided into five or six lobes or segments; *Tube* or throat, thrum-eyed, that is, not showing the pistil; *Edging* and centre of lobes or florets to be even in width, and of same shade of sulphur, lemon or yellow as the eyes, and one shade of yellow only in centre; *Ground* or *body colour*, black or red; *Flower stem*, stiff, strong, erect. *Outdoor Culture*: same as for primrose. *Pot Culture*: *Compost*, two parts good yellow fibrous loam, one part of equal proportions of thoroughly decayed manure, leaf-mould and silver sand. *Pot* in Aug. Place in shady cold frame, in a north aspect after potting, until Oct., then transfer to frame in south aspect. Give just enough water to keep soil moist between Aug. & Mar., afterwards water freely. Admit air freely always, except in severe weather. *Top dress* in Feb. with compost of equal parts loam & decayed cow manure. Apply weak stimulants once a week Mar. to July. Transfer to cold frame or greenhouse with north aspect when in flower. Repot annually. Propagate miscellaneous species by seeds sown on surface of equal parts peat, leaf-mould, & loam in shallow pans or boxes in shady cold frame in Mar. or Ap., or by division in spring; *P. verticillata* & *P. floribunda* by seeds sown as advised for *P. sinensis*, also by division after flowering; primrose & polyanthus by seeds sown on surface of light sandy soil, slightly covered in cold frame in Mar. or Ap., or outdoors in shady position in Ap., likewise by division after flowering.

Prince's-Feather (*Amaranthus hypochondriacus*)—see *Amaranthus*.

Pritchardia.—*Ord.* Palmaceæ. Stove palms. *Orn. foliage. Nat.* Sandwich & Pomoton Islands. *Int.* 1870. *Ht.* 4 to 10 ft. *Species* cultivated, about 6. *Leaves* more or less fan shaped, green. *Compost*, two parts peat & one of loam & sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. to Ap. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* twice daily, Mar. to Sept.; once daily, Sept. to Mar. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Privet (*Ligustrum vulgare*)—see *Ligustrum*.

Procumbent Broom (*Genista procumbens*)—see *Genista*.

Procumbent Phlox (*Phlox procumbens*)—see *Phlox*.

Procumbent Sun-rose (*Helianthemum procumbens*)—see *Helianthemum*.

Procumbent Yellow-flowered Wood-Sorrel (*Oxalis corniculata*)—see *Oxalis*.

Profuse-flowering Chinese Crab (*Pyrus Malus floribundus*)—see *Pyrus*.

Profuse Sea-Lavender (*Statice profusa*)—see *Statice*.

Proliferous Aloe (*Aloe prolifera*)—see *Aloe*.

Proliferous St. John's-Wort (*Hypericum prolificum*)—see *Hypericum*.

Prophet-flower (*Arnebia echioides*)—see *Arnebia*.

Prostanthera (Victorian Dog-wood, Australian Smut-tree).—*Ord. Labiatae*. Greenhouse & half-hardy flowering trees. *Nat. Australia. Int.* 1808. *Ht.* 2 to 6 ft. *Species* cultivated, 5 greenhouse, 1 half-hardy. *Flowers*, white, purple, violet, red, blue; May to Sept. **CULTURE OF GREENHOUSE SPECIES** (*P. violacea*, *P. nivea*, etc.): *Compost*, two parts sandy loam, one part equal proportions of charcoal, broken crocks, & coarse silver sand. *Position*, sunny light airy greenhouse. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Nov.; occasionally afterwards. *Firm* potting, good drainage, & shade from bright sun essential. *No* stimulants required. *Prune* into shape, Feb. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 40° to 50°. **CULTURE OF HALF-HARDY SPECIES** (*P. lasianthos*): *Soil*, as above. *Position*, against S. wall, well drained borders, S. & S.W. of England only; pots in cold greenhouse other parts. *Plant*, Ap. *Protect* in severe weather. *No* pruning beyond training straggly shoots required. *Water* freely in dry weather. *Propagate* by seeds sown in sandy peat in temp. 65° to 75°, Mar. or Ap.; cuttings of young shoots inserted singly in small pots of sandy soil in temp. 50° to 55°, spring or sum.

Prostrate Speedwell (*Veronica prostrata*)—see *Veronica*.

Protea (Cape Artichoke, Cape Honey-flower, Sugar Bush).—*Ord. Proteaceae*. Greenhouse evergreen flowering shrubs. *Int.* 1774. *Nat. S. Africa. Ht.* 1 to 6 ft. *Species* cultivated, about 19. *Flowers*, purple, white, scarlet; Feb. to Sept. *Compost*, two parts light well decayed turfy loam, one part equal proportions silver sand, charcoal, broken pots, freestone, & peat. *Position*, light airy greenhouse fully exposed to sunshine. *Pot*, Mar. *Drain* pots $\frac{1}{2}$ of depth with broken potsherds. *Pot* firmly. *Water* moderately, Mar. to Sept.; occasionally afterwards, keeping soil just moist. *No* syringing or stimulants required. *Stand* plants in sunny position outdoors during June, July, & Aug. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to June, 55° to 65°. *Propagate* by cuttings of firm shoots cut off close to a joint, pared quite smooth, inserted thinly in small pots half filled with drainage, & remainder with pure sand, placed under bell-glass in cool part of greenhouse in sum.

Provence Furze (*Ulex provincialis*)—see *Ulex*.

Provence Oil-plant (*Olea europaea*)—see *Olea*.

Provence Rose (*Rosa centifolia pomponia*)—see *Rosa*.

Prunella (Selfheal).—*Ord. Labiatae*. Hardy herbaceous perennials. *Nat. Europe (Britain). Ht.* 6 to 12 in. *Species* cultivated, 3; varieties numerous. *Flowers*, purple, white; May to Sept. *Soil*, ordinary light rich. *Position*, moist shady border or rockery. *Plant*, Oct., Nov., Mar. or Ap. *Left*, divide, & replant every 2 or 3 years. *Water* in dry weather. *Mulch* with decayed manure in Mar. *Apply* stimulants during flowering season. *Propagate* by division of roots, Oct., Nov. or Mar.

Prune-tree (*Prunus domestica*)—see *Prunus*.

Prunus (Plum, Damson, Myrobalan Plum, Double Chinese Plum).—*Ord. Rosaceae*. Hardy deciduous trees. Edible fruit-bearing, flowering & orn. foliage. **PLUM** (*P. domestica*): *Nat. England. Ht.* 15 to 20 ft. *Varieties* cultivated, about 190. *Flowers*, white; spring. *Fruit*, round or oval; white, yellow, red, or purple. *Soil*, shallow, moderately moist sandy loam, or good ordinary, intermixed freely with old mortar. *Subsoil*, gravelly or chalky. *Position*, open, sunny, sheltered gardens, orchards, walls, or fences. *Plant*, Nov. to Feb. *Distance for planting*—Standards, 21 to 24 ft. each way;

pyramids, 9 to 10 ft.; fan trained, 15 ft.; bush-trained, 6 to 9 ft.; cordons, 18 in. Distance from paths—Pyramids, 5 ft.; bush-trained, 2 ft. 6 in. Number of trees required to plant 1 acre—Standards (21 ft. apart), 99; pyramids (9 ft. apart), 537; bush-trained (6 ft. apart), 1,210. Cost of trees per 100—Standards and pyramids, £5 to £10; bush-trained, £2 10s. to £5. Cost of single trees—Standards, 2s. 6d. to 7s. 6d.; pyramids, 2s. 6d. to 5s.; fan-trained, 3s. 6d. to 7s. 6d.; bush-trained, 2s. 6d. to 3s. 6d.; cordons, 1s. 6d. to 2s. 6d. Mode of Bearing—On spurs formed at base of shoots of previous year's growth, & on older branches. Prune, sum., July & Aug.; winter, Dec. to Feb. Simply thin out branches of standards, & keep centres open. Shorten leading shoots of pyramids & bushes at sixth leaf from base in July; remainder two inches from their base, week or so later. Shorten leading shoots of fan-trained trees in Dec.; also side or front shoots not required to forward new branches to within 2 in. of base, July or Aug. Leading shoots of cordons to grow unpruned until full height is attained; side shoots to be shortened to within 1 in. of base, June or July. Thin fruit of greengages to 3 in. apart; large kinds to 4 or 6 in. apart, when size of hazel nut. Mulch newly planted trees with thick layer of cow manure. Root-prune vigorous & unfruitful trees in Sept. Lift, root-prune, & repot pyramids, bush, & cordon trees every third year. Chemical manures: kainit (sulphate of potash), 5 parts; (by weight), magnesium sulphate, 2 parts; superphosphate, 2 parts. Apply at rate of 7 lbs. per tree immediately after pruning to area of soil equal to circumference of branches, & 22 lbs. more in Mar., forking it in (Griffiths). Propagate by seeds (stones) sown 2 in. deep, 1 in. apart in sandy soil outdoors in Sept. or Oct.; budding in July; grafting in Mar.; layering in autn. Stocks used for budding and grafting: Mussle for standards & pyramids; common plum for dwarfs. DAMSON (*P. domestica* var. *damascena*): Nat. England. Varieties cultivated, 6. Fruit, round or oval, yellow or purple; Sept. & Oct. Soil, moderately rich deep loam. Position, south aspect, well drained site. Shape of trees, standard, pyramidal, or bush. Plant bush-trained trees 5 ft. apart; pyramidal, 15 ft.; standards, 24 ft., in Nov., Dec. or Jan. Depth for roots, 6 in. Prune in Dec., simply cutting away old branches or weak shoots & moderately shortening strong ones. Manures, cost of trees, etc., same as for plums. Propagate by seeds (stones) sown 1 in. deep outdoors in Oct., Nov. or Dec. MYROBALAN PLUM (*P. cerasifera*): Nat. country unknown. Ht. 10 to 15 ft. Flowers, white, Ap. Fruit, oval; violet rose; autn. Branches thorny. Used chiefly for hedges; occasionally as a stock for plums. Hedge culture: Soil, ordinary. Position, sunny. Plant, Oct. to Feb. Distance apart to plant, 6 in. Size of plants, two-year old. Trim into shape, June or July. Cost per 100, 6s. to 7s.; per 1,000, 35s. to 40s. Propagate by seeds (stones) sown as advised for plums; layering shoots in Mar.; suckers in autn. MISCELLANEOUS SPECIES (*P. pissardii*, *P. sinensis*, *P. triloba*, & *P. divaricata*): Nat. Persia, China, & Caucasus. Int. (*P. pissardii*) 1881, (*P. sinensis*) 1869, (*P. triloba*) 1857, (*P. divaricata*) 1322. Flowers, white or rose, single & double, Mar. to May. Leaves of *P. pissardii*, reddish-purple. Soil, ordinary. Position, well drained sunny borders or shrubberies; S. or S.W. wall for *P. triloba*. Plant, Oct. to Feb. Prune as advised for bush plums. POT CULTURE OF *P. SINENSIS* & *P. TRILOBA*: Compost, two parts sandy loam, one part leaf-mould, half a part silver sand. Position, cold greenhouse, Jan. to June; outdoors, pots plunged to rim in garden soil, June to Nov.; sheltered corner or pit, Nov. to Jan. Pot, Nov. Repot annually. Water freely, Mar. to Oct.; moderately afterwards. Apply stimulants occasionally, Ap. to Sept. Temp. for forcing 55° to 65°. Propagate by budding in July, or grafting in Mar. on common plum or myrobalan plum; cuttings of young shoots, 3 to 4 in. long, inserted in sandy soil in shady close cold frame in July; layering in spring.

Prussian Fir (*Abies excelsa*)—see *Abies*.

Pseudopanax.—Ord. Araliaceæ. Greenhouse evergreen shrubs. Orn foliage. Nat. New Zealand. Int. 1846. Ht. 5 to 10 ft. Species cultivated

2. *Leaves*, hand-shaped, shining. *Compost*, equal parts loam, peaty leaf-mould, charcoal, & sand. *Pot*, Feb. to Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 55° to 60°; Sept. to Mar., 45° to 55°. *Propagate* by grafting in heat in spring; inserting portions of roots in light soil in temp. 80° in Ap.

Psidium (Guava Tree).—*Ord.* Myrtaceæ. Stove evergreen shrubs. Flowering & edible fruit-bearing. *Nat.* Brazil, W. Indies, Cayenne. *Int.* 1692. *Ht.* 3 to 20 ft. *Species* cultivated, 6. *Flowers*, white; May to June. *Fruit* (berries) yellow or claret-coloured, round or pear-shaped, aromatic, edible. *Compost*, two parts fibrous sandy loam, one part equal proportions dry cow manure & silver sand. *Position*, well drained pots, tubs, or beds with shoots trained to back walls of stove, warm greenhouse, or vinery. *Pot* or plant, Feb. or Mar. *Prune* into shape annually, Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* freely, Mar., until fruit begins to ripen, then keep foliage dry. *Apply* weak stimulants occasionally after berries form until fruit ripens. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar., 45° to 55°. *Propagate* by cuttings of firm young shoots 2 to 3 in. long, inserted in sand under bell-glass in temp. 75° to 80, spring or sum.

Psoralea (Scurfy Pea, Mexican Tea Plant).—*Ord.* Leguminosæ. Greenhouse evergreen shrubs & hardy herbaceous perennials. *Nat.* Cape of Good Hope, Chili, N. America. *Int.* 1690. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 21 greenhouse; 5 hardy herbaceous. *Flowers*, purple, blue, white, violet; May to Sept. **CULTURE OF SHRUBBY SPECIES**: *Compost*, equal parts fibrous loam, peat, & silver sand. *Position*, pots in sunny airy greenhouse. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Good* drainage essential. *No* stimulants or shade required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *P. glandulosa* may be grown in well drained bed of equal parts sandy peat & loam against sunny walls S. or S.W. England only. **CULTURE OF HARDY HERBACEOUS SPECIES**: *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Mulch* with decayed manure annually in Mar. *Lift*, divide, & replant every 3 or 4 years. *Propagate* shrubby species by cuttings of firm shoots, 2 to 3 in. long, inserted in pots half filled with drainage, remainder layer of moss & pure sand, placed under bell-glass in shady part of greenhouse, May or June; division of roots in Ap.

Ptelea (Hop Tree, Shrubby Trefoil, Wafer Ash, Swamp Dog-wood, Wing-seed, Yellow-leaved Hop Tree).—*Ord.* Rutaceæ. Hardy herbaceous shrubs. Flowering & orn. foliage. *Nat.* N. America. *Int.* 1704. *Ht.* 4 to 8 ft. *Species* cultivated, 1; variety, 1. *Flowers*, green; May & June. *Leaves*, trifoliate, green, or variegated with yellow. *Soil*, ordinary. *Position*, open shrubberies, plantations, or woods. *Plant*, Nov. to Feb. *Prune* into shape, Dec. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sunny position outdoors in Mar. or Ap.; layering shoots any time.

Pteris (Bracken, Brake-fern, Eagle Fern, Spider Fern).—*Ord.* Filices. Stove, greenhouse, & hardy ferns. Evergreen, one deciduous. *Nat.* E. & W. Indies, Mexico, Madeira, Europe (Britain), Azores, Chili, Brazil, Australia, New Zealand. *Int.* (foreign species) 1770. *Species* cultivated, 5 stove; 25 greenhouse; 1 hardy (deciduous); varieties many. **CULTURE OF HARDY SPECIES** (*P. aquilina*): *Soil*, ordinary. *Position*, shady borders or woods. *Plant*, Ap. **CULTURE OF STOVE SPECIES**: *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, pots, beds, or rockeries in shady part of stove. *Pot* or plant, Feb. or Mar. *Water* abundantly, Ap. to Sept.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 60° to 70°. **CULTURE OF GREENHOUSE SPECIES**: *Compost*, as above. *Pot*, Mar. or Ap. *Position*, pots, beds, or rockery in shady part of house. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 55°. *Propagate* by spores sown on fine sandy peat in well

drained pans in temp. 80° any time; dwarf species by division of plants, Oct. or Ap.

Pterostyrax.—*Ord.* Styracaceæ. Hardy deciduous shrub. *Nat.* Japan. *Int.* 1875. *Ht.* 8 to 12 ft. *Species* cultivated, 1. *Flowers*, white; borne in drooping clusters end of July. *Soil*, deep moist sandy loam. *Position*, against S. or S.W. walls. *Prune* away weak shoots only, Nov. to Feb. *Propagate* by cuttings of roots inserted in sandy soil outdoors in Mar. or Oct.; layering shoots in Oct. or Nov.

Ptychosperma (Australian Feather Palm).—*Ord.* Palmaceæ. Stove palms. *Orn.* foliage. *Nat.* Queensland, New Guinea, Australia, Fiji Islands. *Int.* 1867. *Ht.* 10 to 30 ft. *Species* cultivated, about 5. *Leaves*, feather-shaped, green, very graceful. *Compost*, equal parts loam & leaf-mould, half a part silver sand. *Position*, shady part of stove, warm greenhouse, or conservatory; pots or tubs. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Top-dress* large plants occasionally with layer of cow manure. *Apply* stimulants occasionally, Ap. to Sept. *Temp.*, Mar. to Oct., 60° to 75°; Oct. to Mar., 55° to 60°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Pudding-berry (*Cornus canadensis*)—see *Cornus*.

Pulmonaria (Lung-wort, Blue Cowslip, Sea Bugloss, Jerusalem Cowslip, Virgin Mary's Honeysuckle, Beggar's Basket, Beddlem Cowslip, Sage of Bethlehem).—*Ord.* Boraginaceæ. Hardy herbaceous herbs. *Orn.* foliage. *Nat.* Europe (Britain), Siberia. *Ht.* 9 to 15 in. *Species* cultivated, 4. *Flowers*, blue, pink, white, red; Mar. to July. *Leaves*, lance-shaped, green, spotted with white. *Soil*, ordinary. *Position*, partially shaded rockeries or borders. *Plant*, Oct., Nov., Mar. or Ap. *Lift* & replant in fresh soil every 4 or 5 years. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in shady position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Pulque-plant (*Agave americana*)—see *Agave*.

Pultenæa (Victorian Wallflower).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1792. *Ht.* 1 to 3 ft. *Species* cultivated, 17. *Flowers*, yellow, red, purple; Ap. to July. *Compost*, two parts fibrous peat, one part equal proportions silver sand & pounded charcoal. *Position*, light, airy greenhouse. *Pot*, Feb. or Mar. *Well* drained pots & firm potting essential. *Water* freely, Ap. to Sept.; moderately other times. *Use* soft water only. *No* stimulants required. *Shade* unnecessary. *Stand* plants in sunny position outdoors during July & Aug. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to July, 55° to 65°. *Propagate* by seeds sown on surface of shallow well drained pans, filled with sandy peat, slightly covered with fine peat, placed under bell-glass in temp. 55° to 65°, Mar. or Ap.; cuttings of firm shoots, 2 to 3 in. long, inserted in sandy peat under bell-glass in shade in temp. 55° to 65° in sum.

Pumpkin (*Cucurbita Pepo*)—see *Cucurbita*.

Punica (Pomegranate).—*Ord.* Lythraceæ. Hardy deciduous fruit-bearing trees. *Nat.* S. Europe, Cabul, Persia, India. *Int.* 1548. *Ht.* 10 to 20 ft. *Species* cultivated, 1; varieties, about 7. *Flowers*, red, white, yellow; single or double; June to Sept. *Fruits*, roundish, golden red. *Compost*, two parts rich fibrous loam, one part thoroughly decayed cow manure. *Position*, well drained borders against S. & S.W. walls, S. & S.W. England; in tubs, pots, or borders, with shoots trained against back wall of cool or cold houses or conservatories in other parts of the country. *Plant*, Oct. to Feb. *Train* branches thinly to walls. *Prune* weak shoots only. *Blossom* & fruit borne on extremities of shoots of previous year's growth. *Water* outdoor trees copiously in dry weather; indoor trees frequently in sum.; moderately in autn. & spring; give none in winter. *Mulch* surface of soil annually with cow manure in Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots of sandy soil in temp., 55° to 65° in spring, transplanting seedlings singly into small pots &

keeping in greenhouse until following spring, then plant outdoors or continue to grow in pots. Double-flowered sorts by cuttings of firm shoots, 6 to 8 in. long, inserted in well drained pots of sandy soil in cold frame or greenhouse any time; suckers removed from roots & transplanted in Oct. or Nov.; layering shoots Oct. or Nov.; grafting on single-flowered species in Mar.

- Purification-flower (*Galanthus nivalis*)—see *Galanthus*.
 Purple Beech (*Fagus sylvatica purpurea*)—see *Fagus*.
 Purple Butterfly Orchis (*Orchis papilionacea*)—see *Orchis*.
 Purple Camomile (*Aster tripolium*)—see *Aster*.
 Purple Chick-weed (*Arenaria rubra*)—see *Arenaria*.
 Purple Christmas Rose (*Helleborus purpurascens*)—see *Helleborus*.
 Purple Cone-flower (*Echinacea purpurea*)—see *Echinacea*.
 Purple Crocus (*Colchicum autumnale*)—see *Colchicum*.
 Purple-flowered American Raspberry (*Rubus odoratus*)—see *Rubus*.
 Purple-flowered Barren-wort (*Epimedium purpureum*)—see *Epimedium*.
 Purple-flowered Bramble (*Rubus odoratus*)—see *Rubus*.
 Purple-flowered Hellebore (*Helleborus purpurascens*)—see *Helleborus*.
 Purple-flowered Henbane (*Hyoscyamus physaloides*)—see *Hyoscyamus*.
 Purple-flowered Indigo-plant (*Indigofera floribunda*)—see *Indigofera*.
 Purple-flowered Laburnum-tree (*Cytisus purpureus*)—see *Cytisus*.
 Purple-flowered Magnolia (*Magnolia purpurea*)—see *Magnolia*.
 Purple-flowered Mullein (*Verbascum phoeniceum*)—see *Verbascum*.
 Purple-flowered Onion (*Allium acuminatum*)—see *Allium*.
 Purple-flowered Oxytrope (*Oxytropis uralensis*)—see *Oxytropis*.
 Purple-flowered Rock-rose (*Cistus purpureus*)—see *Cistus*.
 Purple-flowered Saxifrage (*Saxifraga oppositifolia* & *S. retusa*)—see *Saxifraga*.
 Purple-flowered Thorn-apple (*Datura fastuosa*)—see *Datura*.
 Purple-fringe (*Rhus cotinus*)—see *Rhus*.
 Purple-fringed Orchis (*Habenaria fimbriata*)—see *Habenaria*.
 Purple-fringed Sumach (*Rhus cotinus*)—see *Rhus*.
 Purple Hemp-Agrimony (*Eupatorium purpureum*)—see *Eupatorium*.
 Purple Himalayan Saxifrage (*Saxifraga purpurascens*)—see *Saxifraga*.
 Purple Jacobæa (*Senecio elegans*)—see *Senecio*.
 Purple-leaved Elm (*Ulmus campestris purpurea*)—see *Ulmus*.
 Purple-leaved Filbert (*Corylus Avellana purpurea*)—see *Corylus*.
 Purple-leaved Peach-tree (*Amygdalus persica foliis purpureus*)—see *Amygdalus*.
 Purple-leaved Spider-wort (*Tradescantia discolor*)—see *Tradescantia*.
 Purple-leaved Sycamore (*Acer pseudo-platanus purpureum*)—see *Acer*.
 Purple Mexican Aster (*Cosmos bipinnatus*)—see *Cosmos*.
 Purple Milk-weed (*Asclepias purpurascens*)—see *Asclepias*.
 Purple Moor-grass (*Molinia cærulea*)—see *Molinia*.
 Purple Orchis (*Orchis mascula*)—see *Orchis*.
 Purple Osier (*Salix purpurea*)—see *Salix*.
 Purple Rock-cress (*Aubretia purpurea*)—see *Aubretia*.

- Purple Sand Verbena** (*Abronia umbellata*)—see *Abronia*.
Purple Side-saddle-flower (*Sarracenia purpurea*)—see *Sarracenia*.
Purple Stone-crop (*Sedum purpureum*)—see *Sedum*.
Purple-tassels (*Muscari comosum*)—see *Muscari*.
Purple-tipped House-leek (*Sempervivum calcareum*)—see *Sempervivum*.
Purple Toad-flax (*Linaria purpurea*)—see *Linaria*.
Purple Willow (*Salix purpurea*)—see *Salix*.
Purple Wolf's-bane (*Aconitum cammarum*)—see *Aconitum*.
Purplish-flowered Sand-wort (*Arenaria purpurascens*)—see *Arenaria*.
Purplish Marsh-Marigold (*Caltha palustris purpurascens*)—see *Caltha*.
Purplish Meadow-Rue (*Thalictrum purpurascens*)—see *Thalictrum*.
Purplish-red-flowered Christmas Rose (*Helleborus atro-rubens*)—see *Helleborus*.
Purslane (*Portulacca oleracea*)—see *Portulacca*.
Puschkinia (Striped Squill).—*Ord.* Liliaceæ. **Hardy** bulbous flowering plants. *Nat. Orient. Int.* 1819. *Ht.* 4 to 8 in. *Species* cultivated, 1; variety 1. *Flowers*, white, striped pale blue; *Mar.* to *June*. *Soil*, ordinary light sandy. *Position*, sunny well drained border or rockery. *Plant* bulbs 4 in. deep, 1 in. apart, *Oct.* or *Nov.* *Protect* immediately after planting with covering 1 in. deep of cocoanut-fibre refuse or decayed manure. *After flowering* remove protective material, fully exposing surface to sun to ripen bulbs. *Lift* & replant every 2 or 3 years. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shallow well drained pans filled with light sandy soil in *Aug.* or *Sept.*, placed in cold frame; offsets removed & planted as advised for old bulbs, *Oct.* or *Nov.*
Pygmy Japan Cypress (*Retinospora obtusa pygmæa*)—see *Retinospora*.
Pyramidal Bell-flower (*Campanula pyramidalis*)—see *Campanula*.
Pyramidal Box-tree (*Buxus sempervirens pyramidalis*)—see *Buxus*.
Pyramidal Bugle (*Ajuga pyramidalis*)—see *Ajuga*.
Pyramidal Chinese Arbor-vitæ (*Biota orientalis pyramidalis*)—see *Biota*.
Pyramidal-flowered Squill (*Scilla peruviana*)—see *Scilla*.
Pyramidal Orchis (*Orchis pyramidalis*)—see *Orchis*.
Pyramidal Saxifrage (*Saxifraga cotyledon pyramidalis*)—see *Saxifraga*.
Pyrenean Adonis (*Adonis pyrenaica*)—see *Adonis*.
Pyrenean Avena (*Geum pyrenaicum*)—see *Geum*.
Pyrenean Cinquefoil (*Potentilla pyrenaica*)—see *Potentilla*.
Pyrenean Columbine (*Aquilegia pyrenaica*)—see *Aquilegia*.
Pyrenean Cowslip (*Primula intricata*)—see *Primula*.
Pyrenean Dead Nettle (*Horminum pyrenaicum*)—see *Horminum*.
Pyrenean Fritillary (*Fritillaria pyrenaica*)—see *Fritillaria*.
Pyrenean Flag (*Iris xiphioides*)—see *Iris*.
Pyrenean Flea-bane (*Inula montana*)—see *Inula*.
Pyrenean Gentian (*Gentiana pyrenaica*)—see *Gentian*.
Pyrenean Honeysuckle (*Lonicera pyrenaica*)—see *Lonicera*.
Pyrenean Lily (*Lilium pyrenaicum*)—see *Lilium*.
Pyrenean Lychnis (*Lychnis pyrenaica*)—see *Lychnis*.
Pyrenean Meadow-Saffron (*Colchicum montanum*)—see *Colchicum*.
Pyrenean Monk's-hood (*Aconitum pyrenaicum*)—see *Aconitum*.
Pyrenean Saxifrage (*Saxifraga longifolia*)—see *Saxifraga*.

Pyrenean Self-heal (*Prunella pyrenaica*)—see *Prunella*.

Pyrenean Star of Bethlehem (*Ornithogalum pyrenaicum*)—see *Ornithogalum*.

Pyrenean Violet (*Viola cornuta*)—see *Viola*.

Pyrethrum (Feverfew, Featherfew, Golden Feather, Giant Ox-eye, Turling Daisy).—*Ord.* Compositæ. Hardy deciduous & evergreen perennials. Flowering & orn. foliage. *Nat.* *P. parthenisfolium aureum*—Golden Feather, Caucasus; *P. roseum*—Rosy-flowered Featherfew, Orient; *P. uliginosum*—Giant Ox-eye, E. Europe; other species, Britain, Portugal. *Int.* Golden Feather, 1804; Rosy-flowered Featherfew, 1804; Giant Ox-eye, 1816. *Ht.* 3 in. to 5 ft. *Species* cultivated, 8; varieties many. *Flowers*, variously coloured; *sum.* *Leaves*, feather-shaped, green or golden. **CULTURE OF GOLDEN FEATHER:** Sow seeds in shallow box or pan, or well drained pot, filled with light sandy soil, just cover with fine mould & place in temp. 55° to 65°, Feb. to Ap. Keep soil moderately moist & shaded from sun. Transplant seedlings when three leaves form 1 in. apart each way in shallow boxes, pans, or well drained pots filled with light ordinary soil. Keep in heat until May, then place in cold frame & plant out in June. Plant 2 to 3 in. apart in beds. Remove flower stems as they form, also points of large leaves to ensure even growth. Sow seeds also in sunny spot outdoors early in Ap., & transplant seedlings when large enough. Old plants not worth preserving. Best results obtained by raising plants annually from seeds. **CULTURE OF P. ROSEUM AND VARS.:** Soil, good rich loam, liberally enriched with decayed manure. *Position*, sunny well drained bed or border. Plant, Nov., Mar. or Ap. in groups of three, 6 to 9 in. apart. Mulch liberally with decayed manure in Ap. Water freely in dry weather. Apply liquid manure occasionally during flowering period. Cut off first flowers directly they fade to ensure second crop of blooms in autn. Lift, divide, & replant in fresh soil very third year. **CULTURE OF P. ULIGINOSUM:** Soil, ordinary. *Position*, sunny or shady border. Plant, Nov., Mar. or Ap. Cut down stems to within 1 ft. of ground in June to ensure dwarf plants. Water, manure, & divide, as advised for *P. roseum*. **CULTURE OF P. TOHIMATCHEWII:** Soil, ordinary. *Position*, dry sunny banks, slopes, beds, & under trees. Plant, 3 in. apart in May. Remove flowers where a dense green carpet is preferred. Propagate as advised for Golden Feather. Old plants will survive the winter outdoors. **CULTURE OF P. PARTHENIUM FL. PL., P. ACHILLEFOLIUM AND P. CORYMBOSUM:** Soil, ordinary. *Position*, sunny borders. Plant, Nov., Mar. or Ap. in groups of three, 6 to 9 in. apart. Water & apply manure, etc., as advised for *P. roseum*. Propagate *P. roseum*, *P. Parthenium*, etc., by seeds sown $\frac{1}{4}$ in. deep in light sandy soil in temp. 55° in Mar., transplanting seedlings when three leaves form 1 in. apart in pots, pans, or boxes of light soil in similar temp., placing in cold frame in May, & planting outdoors in June; *P. roseum* also by division of roots in Mar., placing divisions singly in 3 in. pots in cold frame until June, then planting out; others by division of plants in Mar. or Ap.

Pyrola (Winter Green, American Shin-leaf, Wood Lily, Canker Lettuce).—*Ord.* Ericaceæ. Hardy perennial herbs. *Nat.* Europe (Britain), N. America, W. Indies. *Ht.* 3 to 6 in. *Species* cultivated, 5. *Flowers*, white, red; fragrant; June to Sept. Soil, equal parts peat, leaf-mould, & sandy loam. *Position*, moist partially shady borders or rockeries. Plant, Mar. or Ap. Water freely in dry weather. Lift, divide, & replant only when overgrown. Propagate by seeds sown thinly & slightly covered with very fine sandy peat in position where intended to grow, Mar. or Ap.; division of roots Mar. or Ap.

Pyrus (Apple, Pear, Crab, Service Tree, Sandy Pear, Snow Pear, Mountain Ash, Rowan Tree, White Beam Tree, Chokeberry).—*Ord.* Rosaceæ. APPLE (*Pyrus malus*): Hardy deciduous edible fruit-bearing tree. *Nat.* Europe (Britain). *Ht.* 15 to 30 ft. *Varieties* in cultivation about 1,550. *Flowers*, pink or white; May. *Fruit*, round or conical; Aug. to May. Soil,

deep loam. *Position*, open, sheltered gardens, N.W. or E. walls; land sloping to S.E. & S.W., well drained, just above valley for orchards. *Plant*, Nov. to Feb. *Distance for planting*: Cordons, 18 in.; bush-trained trees, 6 to 6 ft.; pyramids, 9 to 10 ft.; fan-trained trees, 15 ft.; espaliers, 18 ft.; standards, 21 to 24 ft. *Distance from paths*: Pyramids, 5 ft.; bush-trained, 2 ft. 6 in. *Number of trees required to plant 1 acre*: Standards, 21 ft. apart, 99; 24 ft. apart, 75; bush-trained, 6 ft. apart, 1,210; 9 ft. apart, 537; pyramids, 9 ft. apart, 537; 10 ft. 435. *Cost of trees per 100*: Standards & pyramids, £5 to £10; bush-trained, £2 10s. to £5; cordons, £3 to £6. *Cost of single trees*: Standards, 1s. 6d. to 2s. 6d.; pyramids, 1s. 6d. to 5s.; bush, 1s. to 2s.; espaliers, 3s. 6d. to 5s.; cordons, 1s. 6d. to 2s. 6d. *Mode of bearing*: On spurs formed on older branches & base of shoots of previous year's growth. *Fruit buds* may be distinguished from growth buds by having four leaves growing in a cluster. *Sum. pruning*: Shorten all side shoots on cordon trees to the second latent bud—about 1 in.—from their base in June; leave the leader unpruned. Remove the points of the strongest young shoots on pyramids & bushes in July; leave the weak ones untouched. Secure to the wall suitably-placed young shoots of fan-trained trees to form future branches, & nip off points of remaining ones in July. Allow the extremity of each espalier branch to grow unchecked & just take off tips of strongest side shoots in July. Standards require no sum. pruning. *Autn. & winter pruning*: Shorten secondary shoots of cordons to within 1 in. of their base in Sept.; no further pruning required. Shorten all shoots, except leading ones, of bushes & pyramids to within 2 in. of their base in Sept.; leading shoots to 6 or 8 in. in Nov. *Prune* to within 2 in. of base all side shoots on fan-trained trees in Aug. or Sept.; leading shoots, intended to form new branches, to 6, 9, or 12 in. in Nov. Espalier side shoots shorten to 2 in. in Aug. or Sept.; leaders at end of branches to 6, 9, or 12 in. in Nov. Simply thin out branches of standards, keep centre quite open, & shorten any extra vigorous shoot. *Mulch* newly-planted trees with thick layer of manure. *Root-prune* vigorous unfruitful trees in Sept. *Left & replant* every third year cordon, bush, & pyramid trees to keep them fruitful. *Gather fruit* when, on lifting it by the hand, from a vertical to a horizontal position, it readily parts from the tree. *Store* in dark, cool, frost-proof room. *Chemical manures*: (1) Superphosphate of lime 12 parts (by weight) nitrate of potash, 10 parts; common salt, 4 parts; sulphate of magnesia, 2 parts; sulphate of iron, 1 part; sulphate of lime, 8 parts. To be applied at the rate of $\frac{1}{4}$ lb. per square yard in Mar. or Ap. (2) Equal parts (by weight) kainit, sulphate of soda, & superphosphate of lime. To be applied at the rate of 6 lbs. per tree after pruning (Griffiths). *Natural manures*: (3) Decayed cow manure spread on surface of soil over roots in Nov. or Dec. (4) Poultry dung applied in a similar manner. (5) Soapsuds applied liberally in autn. & winter. (6) Liquid horse or cow manure & urine applied at any time. *Stocks used for budding or grafting*: Crab & seedling apple for standards; English Paradise for pyramids & bushes; French Paradise for cordons & very dwarf trees. *Propagate* for new sorts by seeds sown 3-in. deep outdoors in Mar.; grafting in Mar., or budding in July & Aug., to perpetuate existing varieties. **PEAR** (*Pyrus communis*): Hardy deciduous edible fruit-bearing tree. Nat. Europe (Britain). *Ht.* 20 to 40 ft. *Varieties* cultivated, about 650. *Flowers*, white; Ap. to May. *Fruit*, round or pyriform; July to May. *Soil*, deep rich loam; clay soils unsuitable. *Position*, S., W. or E. walls, fences, or arches, for cordons, fan, or espalier-trained trees; open sheltered garden for pyramids or bushes; land sloping to S.E. & S.W., for standards. *Plant*, Nov. to Feb. Remaining cultural details, except chemical manures & stocks, same as advised for the apple. *Chemical manures*: Kainit, 4 parts; (by weight) superphosphate, 1 part. Apply at rate of 4 lbs. per tree in Feb. or Mar. Apply also nitrate of soda at the rate of $\frac{1}{4}$ oz. per gallon of water in liberal quantities once a week, July to Sept. (Griffiths). *Stocks*: Common Pear for standards; quince for pyramids, bushes, & cordons. *Propagate* as advised for the apple. **FLOWERING SPECIES**: (1) *P. malus* & vars.; (2) *P.*

floribunda; (3) *P. spectabilis*; (4) *P. Toringo*; (5) *P. sinensis*; (6) *P. domestica*. True Service Tree: Hardy deciduous trees & shrubs. *Nat.* (1) Europe; (2 & 4) Japan; (3 & 5) China; (6) Britain. *Ht.* 5 to 30 ft. *Flowers*, red, white, rose; *Ap.* to June. *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Nov. to Feb. *Prune*, Dec. to Feb., shortening previous year's side shoots of *P. spectabilis* to within 2 in. of base, leading shoots to 6, 8, or 12 in. Other species require no pruning beyond thinning out branches. *Propagate* by seeds sown 3 in. in sandy soil in sunny position outdoors in Mar.; cuttings of shoots 8 to 12 in. long inserted in ordinary soil outdoors in autn.; layering in autn.; budding on common pear or quince in July; grafting in Mar. MISCELLANEOUS SPECIES (*P. aucuparia*—Mountain Ash; *P. aria*—White Beam, etc.): Hardy deciduous trees & shrubs. *Orn. foliage.* *Nat.* Europe, Britain, Siberia. *Ht.* 4 to 40 ft. *Flowers*, white; May & June. *Berries* of *P. aucuparia*, scarlet; autn. *Leaves*, feather-shaped. *Soil*, ordinary. *Position*, sunny shrubberies or woodlands. *Plant*, Nov. to Feb. *Prune*, Dec. to Feb., simply thinning out branches. *Propagate* *P. aucuparia* by seeds sown $\frac{1}{2}$ in. deep, & 1 in. apart in ordinary soil outdoors in Oct. or Nov.; also by other methods advised for flowering species.

Pyxidanthera (Pine-Barren Beauty).—*Ord.* Diapensiaceæ. Hardy evergreen creeping shrub. *Nat.* New Jersey. *Int.* 1851. *Species* cultivated, 1. *Flowers*, rose; May to Sept. *Soil*, equal parts sandy peat & leaf-mould. *Position*, sunny rockeries. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by seeds sown where required to grow, lightly covering with fine sandy peat, Sept., Oct., or Mar.; division of plants, Oct. or Mar.

Quadrangular-branched Broom (*Genista tetragona*)—see *Genista*.

Quaint Garlic (*Allium paradoxum*)—see *Allium*.

Quaking Grass (*Briza media*)—see *Briza*.

Quamash (*Camassia esculenta*)—see *Camassia*.

Quamoclit (*Ipomœa quamoclit*)—see *Ipomœa*.

Queen Lily (*Phædranassa chloracra*)—see *Phædranassa*.

Queen-of-the-Meadow (*Spirœa salicifolia*)—see *Spirœa*.

Queen-of-the-Orchids (*Grammatophyllum speciosum*)—see *Grammatophyllum*.

Queen-of-the-Prairie (*Spirœa lobata*)—see *Spirœa*.

Queen Olga's Snowdrop (*Galanthus reginæ olgæ*)—see *Galanthus*.

Queen's Cushion (*Saxifraga hypnoides*)—see *Saxifraga*.

Queen's-flower (*Lagerstrœmia reginæ*)—see *Lagerstrœmia*.

Queen's Gilliflower (*Hesperis matronalis*)—see *Hesperis*.

Queensland Elk's-horn Fern (*Platycerium grande*)—see *Platycerium*.

Queensland Orange-tree (*Citrus australis*)—see *Citrus*.

Queensland Spear-lily (*Doryanthes Palmeri*)—see *Doryanthes*.

Queen's Stock (*Matthiola incana*)—see *Matthiola*.

Quercitron Bark-tree (*Quercus tinctoria*)—see *Quercus*.

Quercitron Oak (*Quercus tinctoria*)—see *Quercus*.

Quercus (Oak).—*Ord.* Cupuliferæ. Hardy deciduous & evergreen trees & shrubs. *Orn. foliage.* *Nat.* Common Oak (*Q. robur*), Britain; Evergreen Oak (*Q. ilex*), S. France; Cork Oak (*Q. suber*), Spain; Turkey Oak (*Q. cerris*), S. Europe; other species, Japan, N. America, S. Europe, China, Levant, U. S. America. *Int.* Evergreen & Cork Oak, 1581; Turkey Oak, 1735. *Ht.* 1 to 80 ft. *Species* cultivated, 12 evergreen; 89 deciduous. *Flowers*, greenish; male & female organs borne in different flowers on the same plant; *Ap.* *Male* blooms in long pendulous catkins; *females*, short, solitary, or clustered. *Fruit* or *seed* (acorns), more or less bullet shaped; autn. *Approximate age* attained by old oaks, 2,000 years. *Supposed oldest oak tree in England*—the Cowthorpe Oak; age, 1,800 years. *Greatest diameter*

of spread of branches of oak growing in England, 180 ft. Soil, clay, gravelly, sandy, ironstone, or reclaimed boggy ground for Common Oak & varieties; chalky or clay ground for Evergreen Oak (*Q. ilex*); gravelly & sandy for Cork Oak (*Q. suber*); chalky for *Q. mirebecki*, *rubra*, & *Turneri*; ordinary for remainder. Position, open well drained shrubberies, fields, & woods. *Q. ilex* & *Q. cerris*, well adapted for planting near the sea. Plant evergreen kinds, Sept. to Nov., or Ap.; deciduous ones, Oct. to Feb. Depth for planting in heavy soils, 6 in.; light soils, 9 in. Distance apart for deciduous oaks, 20 to 25 ft.; evergreen oaks, used for shelter, 6 to 10 ft.; for hedges, 4 to 6 ft. Prune deciduous oaks in Dec.; evergreen kinds in Ap. Propagate by acorns gathered in autn., stored in sand until March, then sown 2 in. deep & 3 in. apart each way. Transplant when one year old 12 in. apart each way, & plant in permanent position when three or four years old. Also choice kinds by grafting in March on common oak.

Quick (*Crataegus oxyacantha*)—see *Crataegus*.

Quick-beam (*Pyrus aucuparia*)—see *Pyrus*.

Quicken-tree (*Pyrus aucuparia*)—see *Pyrus*.

Quick-set Thorn (*Crataegus oxyacantha*)—see *Crataegus*.

Quince-tree (*Pyrus cydonia*)—see *Pyrus*.

Quincy-berry (*Ribes nigrum*)—see *Ribes*.

Quisqualis (Mangoon Creeper).—Ord. Combretaceæ. Stove climbing flowering shrub. Deciduous. Nat. Tropical Asia & Africa. Int. 1815. Ht. 10 to 15 ft. Species cultivated, 1. Flowers, orange-red; fragrant; May to Aug. Compost, two parts loam, one part peat, & a little sand. Position, well drained pot or tub, or in a bed with shoots trained up rafters. Pot, Feb. Prune shoots moderately close after flowering. Water freely, Ap. to Oct.; keep nearly dry remainder of year. Syringe daily, Ap. to Sept. Shade from mid-day sun only. Propagate by cuttings of young shoots taken off with a small portion of old stem attached, & inserted in sandy soil in small pots under a bell-glass in a temp. of 75° to 85° in spring.

Rægner's Ivy (*Hedera helix Rægneriana*)—see *Hedera*.

Rabbit-berry (*Shepherdia argentea*)—see *Shepherdia*.

Raccoon-berry (*Podophyllum peltatum*)—see *Podophyllum*.

Racemed Passion-flower (*Passiflora racemosa*)—see *Passiflora*.

Racemose Asparagus (*Asparagus racemosus*)—see *Asparagus*.

Radish (*Raphanus sativus*)—see *Raphanus*.

Rafnia.—Ord. Leguminosæ. Greenhouse evergreen flowering shrubs. Nat. S. Africa. Int. 1794. Ht. 1 to 4 ft. Species cultivated, 3. Flowers, yellow, purple; May to July. Compost, equal parts fibrous loam & sandy peat, & one part equal proportions charcoal, broken pots & coarse silver sand. Position, well drained pots in light sunny greenhouse. Pot, Feb. or Mar. Water copiously, Ap. to Oct.; moderately afterwards. No stimulants required. Temp., Mar to Oct., 55° to 65°; Oct. to Mar., 45° to 55°. Shade from mid-day sun. Prune straggling shoots moderately immediately after flowering. Propagate by seeds sown $\frac{1}{2}$ in. deep in compost of equal parts peat, loam, & sand, in well drained pot or pan in temp. 55° to 65°, Feb. to May; cuttings of firm side shoots, 2 to 3 in. long, inserted singly in 2 in. pots, well drained, & filled with sandy peat, under bell-glass, June to Sept.

Ragnal Oak (*Quercus cerris Ragnæ*)—see *Quercus*.

Rag-weed (*Senecio jacobææ*)—see *Senecio*.

Rag-wort (*Senecio jacobææ*)—see *Senecio*.

Rain-berry (*Rhamnus catharticus*)—see *Rhamnus*.

Rainbow-flower (*Iris germanica*)—see *Iris*.

Rajah Brooke's Rhododendron (*Rhododendron Brookeanum*)—see *Rhododendron*.

Rajah Pitcher-plant (*Nepenthes Rajah*)—see *Nepenthes*.

Ramanos Rose (*Rosa rugosa alba*)—see *Rosa*.

Ram-of-Libya (*Paliurus aculeatus*)—see *Paliurus*.

Ramondia (Rosette Mullein).—*Ord.* Gesneraceæ. Hardy herbaceous perennial. Flowering. *Nat.* Pyrenees. *Int.* 1731. *Ht.* 3 to 4 ft. *Species* cultivated, 1; variety, 1. *Flowers*, purple, white; *Ap.* to June. **OUTDOOR CULTURE**: two parts sandy peat, one part leaf-mould. *Position*, flures or recesses of moist well drained shady rockeries, or in partially-shady peaty beds or borders. *Plant*, Mar. or *Ap.* *Water* occasionally in dry weather. *Should* not be disturbed oftener than is absolutely necessary. **POT CULTURE**: *Compost*, two parts peat, one part equal proportions of leaf-mould & silver sand. *Position*, shady, well-ventilated frames. *Pot*, Mar. or *Ap.* in 3 or 4½ in. pots. *Water* moderately, *Ap.* to Sept.; occasionally afterwards. *Repot* annually. *No* stimulants required. *Propagate* by seeds sown on the surface of sandy peat in well drained pots or pans under bell glass in cold shady frame or greenhouse, Mar. to May; division of plants, Mar. or *Ap.*

Rampion (*Campanula rapunculus*)—see *Campanula*.

Ram Rest-barrow (*Ononis natrix*)—see *Ononis*.

Ram's Horn-bean (*Dolichos biconortus*)—see *Dolichos*.

Randia (Indigo-plant, Ink-berry, Ink-plant).—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* W. & E. Indies, Brazil, Peru, Cochinchina, Sierra Leone. *Int.* 1733. *Ht.* 3 to 15 ft. *Species* cultivated, about 8. *Flowers*, white, yellow; fragrant; May to Aug. *Compost*, one part loam, one part peat, one part well decayed manure & charcoal. *Position*, well drained pots, or beds in plant stove. *Pot* or *Plant*, Feb. or Mar. *Prune* into shape, Feb. or Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 65°. *Water* moderately, Oct. to Feb.; freely afterwards. *Syringe* daily (except when in bloom), Mar. to Sept. *Apply* liquid manure occasionally to healthy plants in flower. *Plants* one to two years old produce the best blooms. *Propagate* by cuttings of firm young side shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat under bell glass in temp. 75° to 85°, Jan. to *Ap.*

Ranry (*Pyrus aucuparia*)—see *Pyrus*.

Ranunculus (Crow-foot, Frog-flower, Fair Maids of France, Fair Maids of Kent, Butter cup, Frog-wort, New Zealand Water Lily).—*Ord.* Ranunculaceæ. Hardy & half-hardy annuals; herbaceous, tuberous-rooted & aquatic perennials. *Nat.* Europe (Britain), Asia, Australia, New Zealand, & America. Turban & Persian *Ranunculus* (*R. asiaticus*), Syria & the Levant. *Int.* (Turban & Persian), 1596. *Ht.* 3 to 18 in. *Species* cultivated, 7 annuals, 4 hardy aquatics, 24 hardy tuberous-rooted, 62 hardy herbaceous, 2 hardy evergreens, & 4 greenhouse herbaceous. *Flowers*, various; spring & sum. **CULTURE OF ANNUAL SPECIES**: *Soil*, ordinary. *Position*, sunny rockery or border. *Sow* seeds in *Ap.* where required to grow & flower. *Cover* lightly with fine mould, & thin to 2 or 3 in. apart when 1 in. high. *Water* freely in dry weather. **CULTURE OF TUBEROUS-ROOTED SPECIES** (*R. asiaticus*) & varieties—the Turban, Persian, Dutch, & Scotch *Ranunculus*—*R. cortusifolius*, etc.): *Soil*, two parts good sandy loam & one part decayed cow manure for fine blooms; good ordinary soil, enriched with rotten manure & leaf-mould for general culture. *Position*, open, sunny beds or borders. *Plant* Turban, Scotch, & Dutch varieties in Oct. or Nov., in warm sheltered districts; end of Feb. otherwise; Persian kinds, end of Feb. *Place* tubers claw-side downwards 2 in. deep & 3 in. apart if to be grown in beds; 2 in. deep & 4 in. apart in rows 5 in. asunder if to be grown in lines in border. *Press* tubers firmly in soil & cover with fine soil. *Protect* autumn-planted tubers with mulch of manure or leaves. *Mulch* in *Ap.* with rotten manure or cocoanut-fibre refuse. *Water* copiously in dry weather. *Sprinkle* Peruvian guano on the bed at the rate of 1 oz. per square yard when leaves appear. *Apply* liquid manures—¼ oz. each of nitrate of soda, superphosphate, & sulphate of iron to 1 gal. of water—once a week from time leaves appear until flower

buds open. *Lift* tubers when flowers fade & leaves turn yellow—generally early in July—dry them in the sun, & store away in sand in cool place till planting time. **CULTURE OF HARDY HERBACEOUS SPECIES** (*R. aconitifolius*, etc.): *Soil*, ordinary. *Position*, shady or partially shady border. *Plant*, Oct., Nov., Mar. or Ap. *Lift*, divide, & replant in fresh soil triennially. *Mulch* annually in Mar. with decayed manure. **CULTURE OF HARDY AQUATIC SPECIES** (*R. obtusifolius*, etc.): *Soil*, ordinary. *Position*, shallow ponds or ditches. *Plant*, Mar. or Ap. **CULTURE OF HARDY EVERGREEN SPECIES** (*R. lapponicus*): *Soil*, ordinary. *Position*, shady or partially shady borders. *Plant*, Oct., Nov., Mar., or Ap. **CULTURE OF R. LYALLI**: *Soil*, sandy peat. *Position*, shady border at base of wall or fence; or in pots standing in shallow pans of water in cool frame or greenhouse. *Pot*, Feb. or Mar. *Plant*, tubers 3 in. deep & 3 in. apart in Mar. *Water* freely outdoors in dry weather, also at all times when grown in pots. *Repot* annually. *Propagate* by seeds sown as soon as ripe in autn. $\frac{1}{2}$ in. deep in boxes or pans filled with equal parts loam, leaf-mould, & sand, & placed in a cold frame or cool greenhouse; herbaceous kinds by division in Oct. or Mar.

Rape (*Brassica napus*)—see *Brassica*.

Raphanus (Radish).—*Ord.* Cruciferae. Hardy annual. Esculent-rooted. Usd extensively for salads. *Nat.* China. *Int.* 1548. *Species* cultivated 2; varieties several. *Flowers*, white and purple; *May*. *Roots*, long, round or oval, crimson & white shades. **OUTDOOR CULTURE OF COMMON RADISH**: *Soil*, deep, light, ordinary. *Position*, warm south border for first & last sowing; cool partially shady ones for intermediate crops. *Sow* for first crop in Feb., either broadcast or in drills 1 in. deep & 6 in. apart; successional crops in similar manner at intervals of a month until Oct. Long-rooted kinds best for spring sowing; round & oval ones for summer. *Thin* when three leaves form to 1 in. apart. *Water* copiously in dry weather. *Seeds required*, $\frac{1}{2}$ oz. for square yard, or $\frac{1}{2}$ oz. for a row 50 ft. long. *Manures*: (1) $\frac{1}{2}$ oz. kainit, 1 oz. sulphate of ammonia, 2 oz. superphosphate, $\frac{1}{2}$ oz. iron sulphate to 1 gall. of water; to be applied once a week from time seedlings are 1 in. high. (2) $\frac{1}{2}$ oz. Peruvian guano to 1 gall. of water applied as No. 1. (3) $\frac{1}{2}$ oz. nitrate of soda to 1 gall. of water, applied as No. 1. (4) $\frac{1}{2}$ lb. of native guano per square yard, forked in before sowing. *Forcing*: Make a hot-bed of manure, cover with 4 in. of fine mould, & place a frame over it. *Sow* seeds thinly, lightly cover with mould, moisten with tepid water, & keep close until seedlings appear, then admit air daily. *Thin* early to ensure good roots. *First sowing* should be made in Dec., second in Jan., third in Feb., & fourth in Mar. *Apply* stimulants as advised for outdoor kinds. Long-rooted varieties best for forcing. **CULTURE OF SPANISH RADISH**: *Sow* seeds in drills 1 in. deep, & 6 in. apart in July or Aug. *Thin* seedlings when 1 in. high to 6 in. apart. *Water* freely in dry weather, & apply stimulants as directed for ordinary kinds. *Lift* roots in Nov. & store in sand in a cool shed to use as required. **CULTURE OF RAT-TAILED RADISH** (*R. caudatus*): *Nat.* Java. *Int.* 1815. *Sow* seeds in drills 1 in. deep & 6 in. apart in Ap., May, or June. *Thin* to 6 in. apart when 1 in. high. *Gather* seed pods when grown for pickling, mixing with salads, or cooking & eating, like asparagus.

Raspberry (*Rubus idæus*)—see *Rubus*.

Rat-tailed Radish (*Raphanus caudatus*)—see *Raphanus*.

Rat's-tail Cactus (*Cereus flagelliformis*)—see *Cereus*.

Rattan Cane (*Calamus draco*)—see *Calamus*.

Rattle-root (*Cimicifuga racemosa*)—see *Cimicifuga*.

Rattle-snake Fern (*Botrychium virginicum*)—see *Botrychium*.

Rattle-snake-leaf (*Goodyera pubescens*)—see *Goodyera*.

Rattle-snake Plantain (*Goodyera pubescens*)—see *Goodyera*.

Rattle-snake-root (*Trillium latifolium*)—see *Trillium*.

Rattle-snake-weed (*Hieracium venosum*)—see *Hieracium*.

Rattle-snake's Master (*Agave virginica*)—see *Agave*.

Ravenala (Traveller's Tree).—*Ord. Scitamineæ*. Stove evergreen perennials. Orn. foliage. *Nat.* Madagascar. *Int.* date unknown. *Ht.* 10 to 30 ft. *Species* cultivated, 1. *Flowers*, white; *sum.* *Leaves*, very large, green. *Compost*, two parts good loam, one part well decayed manure, & one part sand. *Position*, pots, tubs, or beds in lofty sunny stove. *Pot* or *plant*, Jan. to Ap. *Water* copiously, Feb. to Oct.; about once fortnightly afterwards. *Syringe* twice daily, Feb. to Sept.; once daily, Sept. to Feb. *Moist* atmosphere essential. *Apply* stimulants twice or three times weekly, Mar. to Oct. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by suckers removed from parent plant & placed in pots in temp. 75° to 85° any time of year.

Ravenea.—*Ord. Palmaceæ*. Stove palm. Orn. foliage. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Leaves*, feather-shaped, green. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, shady, moist. *Pot*, Feb. or Mar. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°. *Propagate* by seeds sown 1 in. deep in pots of light soil in temp. 85° in Mar.

Ravenna Grass (*Erianthus Ravennæ*)—see *Erianthus*.

Ray-flowered Bind-weed (*Convolvulus sepium roseum*)—see *Convolvulus*.

Reaumuria.—*Ord. Tamariscinæ*. Evergreen flowering shrub. *Nat.* Syria. *Int.* 1800. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple; *Aug.* *Soil*, equal parts sandy loam & peat. *Position*, sheltered sunny rockeries, or against S. or S. W. walls. *Plant*, Sept. to Oct., Ap. or May. *Prune* into shape only, immediately after flowering. *POT CULTURE*: *Compost*, equal parts fibry loam, peat, leaf-mould, & sand. *Position*, cold greenhouse, frame, or pit, Oct. to May; sunny position outdoors, May to Oct. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately other times. *Propagate* by cuttings of young side shoots, 2 to 3 in. long, inserted in small pots filled with pure sand under bell-glass, in shady position in cold greenhouse or frame, spring or sum.

Recurved-leaved Adam's Needle (*Yucca recurva*)—see *Yucca*.

Recurved-leaved Stonecrop (*Sedum recurvatum*)—see *Sedum*.

Recurved Prickly-toothed Fern (*Lastrea amula*)—see *Lastrea*.

Red Alder (*Cunonia capensis*)—see *Cunonia*.

Red American Ash (*Fraxinus pubescens*)—see *Fraxinus*.

Red Bane-berry (*Actæa spicata rubra*)—see *Actæa*.

Red-bead Vine (*Abrus precatorius*)—see *Abrus*.

Red Beef-wood (*Ardisia coriacea*)—see *Ardisia*.

Red Beet (*Beta vulgaris*)—see *Beta*.

Red Birch (*Betula nigra*)—see *Betula*.

Red-branched Amelanchier (*Amelanchier sanguinea*)—see *Amelanchier*.

Red Broom-rape (*Orobanche rubra*)—see *Orobanche*.

Red-bud (*Cercis canadensis*)—see *Cercis*.

Red Californian Cedar (*Libocedrus decurrens*)—see *Libocedrus*.

Red Camomile (*Adonis autumnalis*)—see *Adonis*.

Red Castor-bean (*Ricinus sanguineus*)—see *Ricinus*.

Red Cedar (*Juniperus virginiana*)—see *Juniperus*.

Red Clover (*Trifolium pratense*)—see *Trifolium*.

Red Crowfoot (*Ranunculus asiaticus sanguineus*)—see *Ranunculus*.

Red English Elm (*Ulmus campestris stricta*)—see *Ulmus*.

Red Eye-bright (*Bartisia odontites*)—see *Bartisia*.

Red Filbert (*Corylus avellana tubulosa*)—see *Corylus*.

Red Fir (*Abies excelsa nigra*)—see *Abies*.

- Red-flowered Bladder Senna (*Colutea cruenta*)—see *Colutea*.
 Red-flowered Buck-eye (*Pavia carnea*)—see *Pavia*.
 Red-flowered Bugloss (*Echium rubrum*)—see *Echium*.
 Red-flowered Currant (*Ribes sanguineum*)—see *Ribes*.
 Red-flowered Hawk's-beard (*Crepis rubra*)—see *Crepis*.
 Red-flowered Horned-poppy (*Glaucium phæniceum*)—see *Glaucium*.
 Red-flowered Horse Chestnut (*Æsculus rubicunda*)—see *Æsculus*.
 Red-flowered Indian Daphne (*Daphne indica rubra*)—see *Daphne*.
 Red-flowered Larkspur (*Delphinium grandiflorum rubrum*)—see *Delphinium*.
 Red-flowered Mignonette (*Reseda odorata rosea*)—see *Reseda*.
 Red-flowered Procumbent Wood-sorrel (*Oxalis corniculata rubra*)—see *Oxalis*.
 Red-flowered Purslane (*Portulaca splendens*)—see *Portulaca*.
 Red-flowered Strawberry-tree (*Arbutus unedo rubra*)—see *Arbutus*.
 Red-flowered Sweet Sultan (*Centaurea moschata rubra*)—see *Centaurea*.
 Red-fruited Bullace (*Prunus insitia fructa rubro*)—see *Prunus*.
 Red-fruited Cotoneaster (*Cotoneaster vulgaris erythrocarpa*)—see *Cotoneaster*.
 Red-fruited Mulberry-tree (*Morus rubra*)—see *Morus*.
 Red Ginger (*Zingiber officinale*)—see *Zingiber*.
 Red Globe Everlasting (*Gomphrena globosa*)—see *Gomphrena*.
 Red-head (*Asclepias curassavica*)—see *Asclepias*.
 Red Helleborine (*Cephalanthera rubra*)—see *Cephalanthera*.
 Red-hot Poker-plant (*Tritoma uvaria*)—see *Tritoma*.
 Red-ink-plant (*Phytolacca decandra*)—see *Phytolacca*.
 Red-leaved House-leek (*Sempervivum triste*)—see *Sempervivum*.
 Red-leaved Orach (*Atriplex hortensis rubra*)—see *Atriplex*.
 Red-leaved St. John's-wort (*Hypericum ascyron*)—see *Hypericum*.
 Red-legs (*Polygonum bistorta*)—see *Polygonum*.
 Red Maple (*Acer rubrum*)—see *Acer*.
 Red Morocco (*Adonis autumnalis*)—see *Adonis*.
 Red Nightshade (*Physalis Alkekengi*)—see *Physalis*.
 Red Nosegay-tree (*Plumieria rubra*)—see *Plumieria*.
 Red Oak (*Quercus rubra*)—see *Quercus*.
 Red Osier (*Salix rubra*)—see *Salix*.
 Red Osier Dog-wood (*Cornus stolonifera*)—see *Cornus*.
 Red Pine-tree (*Abies rubra*)—see *Abies*.
 Red Pottage Pea (*Ervum Lens*)—see *Ervum*.
 Red Puccoon (*Sanguinaria canadensis*)—see *Sanguinaria*.
 Red Rattle Grass (*Pedicularis palustris*)—see *Pedicularis*.
 Red River Snake-root (*Aristolochia reticulata*)—see *Aristolochia*.
 Red Rod-wood (*Eugenia axillaris*)—see *Eugenia*.
 Red-root (*Ceanothus americanus*)—see *Ceanothus*.
 Red-rot (*Drosera rotundifolia*)—see *Drosera*.
 Red Sand-wort (*Arenaria rubra* & *Spergularia rubra*)—see *Arenaria* & *Spergularia*.
 Red Side-saddle-flower (*Sarracenia rubra*)—see *Sarracenia*.
 Red Star Lily (*Lilium concolor*)—see *Lilium*.
 Red-stemmed Poke (*Phytolacca icosandra*)—see *Phytolacca*.
 Red-stemmed Star-wort (*Aster rubicaulis*)—see *Aster*.

Red-twigged Lime-tree (*Tilia europæa rubra*)—see *Tilia*.

Red-twigged Red-root (*Ceanothus sanguineus*)—see *Ceanothus*.

Red-twigged Whortle-berry (*Vaccinium erythrinum*)—see *Vaccinium*.

Red Valerian (*Centranthus ruber*)—see *Centranthus*.

Red-veined Rhubarb (*Rheum Emodi*)—see *Rheum*.

Red Whortle-berry of Mount Ida (*Vaccinium vitis-idaea*)—see *Vaccinium*.

Red Winter Cherry (*Physalis Alkekengi*)—see *Physalis*.

Red-wooded Buckthorn (*Rhamnus erythroxylon*)—see *Rhamnus*.

Reddish-veined Ash (*Fraxinus rubicunda*)—see *Fraxinus*.

Reed (*Arundo phragmites*)—see *Arundo*.

Reed Grass (*Arundo conspicua*)—see *Arundo*.

Reed Mace (*Typha latifolia*)—see *Typha*.

Reem (*Calamus flagellum*)—see *Calamus*.

Reflexed Snowdrop (*Galanthus reflexus*)—see *Galanthus*.

Regelia.—*Ord.* Myrtaceæ. Greenhouse evergreen flowering shrub. *Nat.* W. Australia. *Int.* 1874. *Ht.* 3 to 5 ft. *Species* cultivated, 1. *Flowers*, red; May to July. *Compost*, equal parts peat & loam, one-sixth sand. *Position*, large tub or border, well drained. Shoots to climb roof. *Pot* or plant, Mar. *Water* abundantly, May to Aug.; moderately afterwards. *Temp.* Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by cuttings inserted in sandy soil in temp. 75° in Mar.

Rehmannia.—*Ord.* Scrophulariaceæ. Hardy perennial herb. *Nat.* N. China. *Int.* 1835. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, purple; Ap. to July. *Soil*, moist sandy peat. *Position*, partially shady borders or at base of walls running E. & W. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Mulch* liberally with cocoanut-fibre refuse or decayed manure in Ap. In cold districts it is best to lift plants in Oct.; place in pots & store in cold frame or pit until following Mar., then plant out. *POT CULTURE*: *Compost*, two parts sandy peat, one part leaf-mould. *Position*, well drained pots in cold frame, pit, or greenhouse. *Pot*, Feb. or Mar. *Water* liberally, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants once a week during flowering period. *Shade* from bright sun essential. *Propagate* by cuttings of stout healthy shoots, 2 to 3 in. long, in sandy soil, under bell-glass or hand-light, in cold frame or greenhouse, July to Oct.

Reidia.—*Ord.* Euphorbiaceæ. Stove orn. foliage plant. Evergreen. *Nat.* Java. *Int.* date unknown. *Ht.* 1 to 5 ft. *Species* cultivated, 1. *Flowers*, yellow, red; sum. *Leaves*, feather-shaped, glaucous; a pretty plant for table decoration. *Compost*, equal parts sandy loam & fibry peat, one part equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* morning & evening, Ap. to Sept. *Prune* into shape, Jan. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell-glass in temp. 75°, spring or sum.

Reineckea.—*Ord.* Liaceæ. Hardy herbaceous perennial. Flowering & orn. foliage. *Nat.* China, Japan. *Int.* 1792. *Ht.* 6 in. *Species* cultivated, 1; variety, 1. *Flowers*, flesh-coloured; fragrant; Ap. *Leaves*, green, or striped with creamy yellow. *Soil*, ordinary good. *Position*, sunny rockeries or borders; variegated variety as edgings to borders. *Plant*, Mar. or Ap. *Lift*, divide, & replant every 3 or 4 years. *Water* copiously in dry weather. *Propagate* by division of creeping rhizomes in Mar. or Ap.

Rein Orchis (*Habenaria ciliaris*)—see *Habenaria*.

Reinwardtia (East-Indian Flax, Winter Flax).—*Ord.* Linaceæ.

Greenhouse evergreen flowering shrubs. *Nat.* India & E. Indies. *Int.* 1779. *Ht.* 1 to 3 ft. *Species* cultivated, 2. *Flowers*, yellow; Oct. to Ap. *Compost*, equal parts loam & peat, little sand. *Pol.* Mar. or Ap. *Prune* previous year's shoots to within 1 in. of their base in Feb. or Mar. *Position*, warm greenhouse, Sept. to June; cold sunny frame, June to Sept. *Water* moderately, Oct. to Mar.; freely other times. *Syringe* twice daily, Feb. to Sept. *Apply* weak stimulants occasionally when in flower. *Temp.*, Sept. to Feb., 55° to 65°; Feb. to June, 65° to 75°. *Nip* off points of young shoots in June to induce bushy growth. *Propagate* by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass in temp. 65° to 75° in Ap. or May.

Renanthera.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Cochin China, Borneo. *Int.* 1816. *Ht.* 1 to 8 ft. *Species* cultivated, 2. *Flowers*, scarlet, orange-yellow; July to Nov. *Fiz* *R. coccinea* to blocks of wood or stems of dead tree ferns by means of copper wire. *Syringe* roots twice daily, Mar. to Oct.; about once a week afterwards. *Shade* from mid-day sun.; expose fully to light other times. *Plant* *R. Lowi* in fresh clean sphagnum moss & charcoal in pots filled $\frac{1}{2}$ depth with charcoal & clean crocks. *Water* copiously, daily, Mar. to Oct.; about a fortnight afterwards. *Shade* from mid day sun, but otherwise keep growing in a light position. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudobulbs at potting time.

Reseda (Mignonette).—*Ord.* Resedaceæ. A sub-perennial, but usually grown as an annual. *Nat.* N. Africa, Egypt. *Int.* 1752. *Ht.* 1 to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, red, green; Aug. **OUTDOOR CULTURE:** *Soil*, ordinary, containing old mortar or slaked lime. *Position*, sunny beds, borders, or rockeries. *Sow* seeds $\frac{1}{2}$ in. deep in masses or rows in Mar. or Ap. *Thin* seedlings when 1 in. high to 2 or 3 in. apart. *Water* freely in sum. *Apply* stimulants occasionally when in flower. In warm dry positions plants will survive the winter outdoors for several years. **INDOOR CULTURE:** *Compost*, equal parts loam, leaf-mould, dried cow manure, old mortar, & silver sand. *Sow* Mar. or Ap. for sum. flowering; July or Aug. for winter & spring. *Fill* 3-in. pots to within $\frac{1}{4}$ in. of rim, *sow* 5 or 6 seeds in each, cover with $\frac{1}{4}$ in. of soil, & place in temp. 55° to 65°. When seedlings are 1 to 2 in. high, transfer bodily to flowering pots (5 in.) *Pot* firmly & disturb roots as little as possible. *Water* moderately at first; freely afterwards. *Pinch* off points of main shoots when 3 in. high if abundance of bloom is required. *Apply* stimulants— $\frac{1}{4}$ oz. ammonia to 1 gall. of water—once a week from time flower spike forms till blooms expand. *Tree Mignonette:* Insert cuttings singly in 2-in. pots in spring in temp. 55° to 65°. *Transfer* to larger pots when well rooted. *Nip* off all side shoots & allow main stem to grow one or more feet high, then remove point, & let side shoots form at apex. Shorten these from time to time until bushy head is obtained, then allow blooms to form. *Water* freely in sum.; moderately in winter. *Apply* stimulants when in bloom. *Repot* annually.

Restrepia.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Columbia, Costa Rica, Caraccas, Mexico, Guatemala. *Int.* 1837. *Ht.* 3 to 6 in. *Species* cultivated, about 12. *Flowers*, yellow, purple, white; all the year round. *Compost*, sphagnum moss only. *Position*, small blocks of wood suspended from roof. *Place* layer of moss on block, then roots of plant, then another layer of moss, & secure with copper wire. *Water* abundantly, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* blocks 2 or 3 times daily in sum.; once daily in winter & autn. *Temp.*, Nov. to Mar., 45° to 55°; Mar. to Nov., 55° to 60°. *Propagate* by division, Feb. to Mar.

Resurrection Plant (*Selaginella lepidophylla*)—see *Selaginella*.

Retinospora.—*Ord.* Coniferae. Hardy evergreen trees & shrubs. *Nat.* Japan. *Int.* 1861. *Ht.* 10 to 80 ft. *Species* cultivated, 7; varieties several. *Leaves* small, scale-like. *Habit* pyramidal, graceful. *Soil*, deep rich

loam. *Position*, sheltered, on lawns or in shrubberies. *Plant*, Sept., Oct., or Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors a year afterwards; cuttings of young branchlets, 2 in. long, inserted in sandy soil in cold frame or under hand-light, Sept. or Oct.

Rhætian Dwarf Wallflower (*Erysimum rheticum*)—see *Erysimum*.

Rhamnus (Buckthorn, Harts-thorn, Ram, Barren Privet, Californian Coffee-tree, French-berry, Way-tree, Black Alder).—*Ord.* Rhamnaceæ. Stove, greenhouse & hardy, evergreen & deciduous trees & shrubs. Hardy species only worth cultivating. *Nat.* Europe (Britain), Siberia, N. America, Azores, Asia Minor, China. *Int.* (foreign species), 1629. *Ht.* 4 to 20 ft. *Species* cultivated, 3 evergreen; 8 deciduous. *Flowers*, green; insignificant. *Fruit*, berries; black, yellow; autn. *CULTURE OF STOVE AND GREENHOUSE SPECIES*: *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, pots indoors all the year round for stove species; pots inside from Sept. to June, & outdoors June to Sept. for greenhouse kinds. *Pot*, Feb. or Mar. *Prune*, Feb. *Water*, freely, Ap. to Oct.; moderately afterwards. *Temp.* for stove species 55° to 65°, Sept. to Mar.; 70° to 80°, Mar. to Sept.; greenhouse species, 40° to 60°, Sept. to Mar.; 55° to 65°, Mar. to Sept. *CULTURE OF HARDY SPECIES*: *Soil*, ordinary. *Position*, sunny or shady shrubberies; good seaside shrubs. *Plant*, Oct. to Mar. *Prune*, Feb. *Propagate* stove & greenhouse species by cuttings inserted in sand under bell-glass in spring; hardy species by seeds sown outdoors in autn.; cuttings inserted outdoors in ordinary soil in Sept.; by layering in Sept. or Mar.

Rhaphiolepis (Indian Hawthorn, Japanese Hawthorn).—*Ord.* Rosaceæ. Half-hardy & hardy evergreen flowering shrubs. *Nat.* China, Japan. *Int.* 1806. *Ht.* 3 to 15 ft. *Species* cultivated, 2; varieties, 3. *Flowers*, white, pink; fragrant; Feb. to Aug. *Soil*, equal parts peat, loam, & silver sand. *Position*, S. & S.W. walls, well drained borders for half-hardy species (*R. indica*): sunny rockeries or sheltered borders for hardy species (*R. japonica*). *Plant*, Sept., Oct., or Ap. *Prune* straggling shoots into shape, Ap. *Protect* half-hardy species in severe weather with mats or straw hurdles. *POT CULTURE OF HALF-HARDY SPECIES AND VARIETIES*. *Compost*, as above. *Position*, well drained pots in cold greenhouse or pit, Sept. to May; sunny place outdoors, May to Sept. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. No stimulants required. *Propagate* by cuttings of firm shoots, 2 to 3 in. long, inserted in compost of equal parts sand, peat, & loam, under bell-glass or hand-light in cold frame, Aug. to Nov.

Rhapis (Ground Rattan Cane).—*Ord.* Palmaceæ. Greenhouse palms. Orn. foliage. *Nat.* China, Japan, Cochin China. *Int.* 1774. *Ht.* 4 to 8 ft. *Species* cultivated, 3; variety, 1. *Leaves*, fan-shaped, green; variety, green striped with white. *Compost*, two parts rich loam, one part decayed leaf-mould & sand. *Position*, well drained pots in greenhouse or dwelling-room, during sum. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally during sum. *Place* small lump of sulphate of iron on surface of soil to ensure deep healthy green foliage. *Shade* from sun essential. *Syringe* twice daily in sum.: once other times. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55°. *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed in Ap. or Aug.

Rhaponticum (Swiss Centaury).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Switzerland. *Int.* 1640. *Ht.* 2½ ft. *Species* cultivated, 1. *Flowers*, purple; June to Aug. *Leaves*, large, egg or heart shaped, silvery. *Soil*, deep moist ordinary. *Position*, sunny borders or isolated specimens on lawns. *Plant*, Oct., Nov., Mar., or Ap. *Water* liberally in dry weather. *Apply* stimulants occasionally during sum. *Propagate* by division of roots in Mar.

Rheum (Rhubarb).—*Ord.* Polygonaceæ. Hardy herbaceous perennials. Edible stalked & orn. foliage plants. *Nat.* Thibet, India, China, Russia, Austria; edible rhubarb, Siberia. *Int.* edible rhubarb (*R. rhaponticum*), 1573. *Ht.* 3 to 10 ft. *Species* cultivated, 8; varieties numerous. *Flowers*, white or green; May. *Leaves*, large, hand-shaped, green. *Roots*, large, fleshy. *CULTURE OF EDIBLE RHUBARB* (*R. rhaponticum*): *Soil*, light deep rich. *Position*, sunny, open. *Plant* single roots with crowns 2 in. below surface, 3 ft. apart in rows 3 ft. asunder, in Nov., Feb., or Mar. *Top-dress* with manure in Nov. or Feb., forking it into surface of soil. *Leaf*, divide, & replant every four years. *No stalks* should be gathered the first year. *Remove* flower stems directly they appear. *Forcing*: Cover two or more-year old crowns with pots or headless casks or tubs, & place fresh manure & tree leaves over these in Jan. or Feb., or lift strong roots & place them close together in deep boxes underneath staging in warm greenhouse, or in corners of dark cellars, in the mushroom houses, with a little soil between. *Keep* moist and dark. *Temp.*, 55° to 75°. *Forcing season*, Nov. to Feb. *Roots*, 2 to 5 years' old, best for forcing. *Reject* roots after forcing. *CULTURE OF ORNAMENTAL-LEAVED SPECIES* (*R. Emodi*, *R. palmatum*, *R. nobile*, etc.): *Soil*, deep, rich ordinary. *Position*, isolated specimens on lawns, wild gardens, islands; sunny. *Plant*, Nov. to Feb. *Water* copiously in dry seasons. *Apply* stimulants occasionally in sum. *Chemical Manures*: 2 oz. kainit, 2 oz. superphosphate, $\frac{1}{2}$ oz. iron sulphate to 1 gall. of water applied at intervals of a fortnight during growth (Griffiths). *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors in Mar. or Ap.; by division of roots with crowns or buds attached, Nov. to Feb.

Rheumatism-root (*Jeffersonia diphylla*)—see *Jeffersonia*.

Rhexia (Deer Grass, Meadow Beauty).—*Ord.* Melastomaceæ. Hardy perennial herbs. *Nat.* Eastern N. America. *Int.* 1759. *Ht.* 6 in. to 18 ft. *Species* cultivated, 3. *Flowers*, purple; July to Sept. *Soil*, sandy peat or bog earth. *Position*, open sunny bog, swamp, or moist border. *Plant*, Oct., Nov., Mar., or Ap. *Propagate* by division of roots in Mar. or Ap.

Rhine-berry-thorn (*Rhamnus catharticus*)—see *Rhamnus*.

Rhipsalis.—*Ord.* Cactaceæ. Greenhouse succulent shrubs. *Nat.* Brazil, Tropical & Central America, Jamaica. *Int.* 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 16. *Flowers*, white, yellow, greenish; Feb. to Nov. *Compost*, equal parts sandy loam, leaf-mould, brick rubbish, & coarse silver sand. *Position*, well drained pots in light greenhouse. *Pot*, Ap. or May; pots to be drained $\frac{1}{2}$ depth for large plants, $\frac{1}{4}$ for small plants. *Press* compost in firmly. *Water* moderately, Ap. to Aug.; keep almost dry, Aug. to Ap. *Shade* from bright sunshine. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 50° to 55°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained sandy soil & placed in temp. 75°, Mar.; keep soil moderately moist. By cuttings of stems inserted in small pots of sandy soil in sum.; grafting on *Cereus speciosissimus*.

Rhodanthe (Swan River Everlasting).—*Ord.* Compositæ. Half-hardy annual. *Nat.* Western Australia. *Int.* 1832. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, white, crimson, rose, yellow; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap., harden off in May, & plant out in June. *Gather* blooms when fully grown, & dry thoroughly in sum. for winter decorations. *POT CULTURE*: *Compost*, equal parts sandy peat, leaf-mould, loam, & decayed cow-manure. *Sow* seeds thinly in shallow pan or box in temp. 55° to 65° in Sept. for spring flowering, & in Mar. for sum. blooming. *Transplant* when three leaves have formed several 1 in. apart in a 5-in. pot. *Grow* on shelf near glass. *Water* moderately at first; freely later on. *Apply* weak stimulants once a week when seedlings are 6 in. high. *Support* with neat stakes when 3 to 6 in. high. *No shade* required. *Winter temp.*, 45° to 55°.

Rhodochiton.—*Ord.* Scrophulariaceæ. Greenhouse climbing herb. Evergreen. *Nat.* Mexico. *Int.* 1833. *Ht.* 10 to 15 ft. *Species* cultivated, 1.

Flowers, reddish purple; **sum.** *Compost*, equal parts loam & leaf-mould & half a part silver sand. *Position*, well drained pots, boxes, beds, or borders with shoots trained up trellis, walls, or rafters of sunny greenhouse. *Pot*, **Mar.** to **May**. *Water* freely, **Mar.** to **Sept.**; moderately, **Sept.** to **Mar.** *Apply* stimulants occasionally during flowering period. *Shade* from bright sun. *Thin out* & shorten shoots moderately in **Feb.** *Temp.*, **Mar.** to **Sept.**, 55° to 65°; **Sept.** to **Mar.**, 45° to 55°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in ordinary light soil in temp. 50° to 60°, **Mar.**; transplanting seedlings when an inch high singly in. 2 or 3-in. pots; cuttings of shoots inserted in sandy soil under bell-glass, in temp. 45°, **Mar.** to **Aug.**

Rhododendron (Alpine Rose).—*Ord.* Ericaceæ. Stove, greenhouse, & hardy evergreen flowering shrubs. *Nat.* India, Java, Borneo, Philippine Islands, N. America, Siberia, Caucasus, China, Japan, Lapland, Switzerland, Asia Minor. *Int.* 1656. *Ht.* 6 in. to 25 ft. *Species* cultivated, 14 stove; 45 greenhouse; about 45 hardy; varieties numerous. *Flowers*, rose, pink, crimson, white, yellow, purple, red; mostly spring. **CULTURE OF STOVE AND GREENHOUSE SPECIES, HYBRIDS, ETC.**: *Compost*, two parts turfy peat, one part silver sand. *Position*, well drained pots or tubs indoors all the year round for stove kinds; pots indoors from **Sept.** to **June**; outdoors on bed of cinder ashes in sunny position; **June** to **Sept.** for greenhouse kinds. *Pot*, **Ap.** or **May**, directly after flowering. *Water* freely, **Ap.** to **Oct.**; moderately afterwards. Rain water preferable; water containing lime injurious. *Apply* a little artificial manure to surface of soil when buds show. *Repotting* only necessary every three or four years. *Temp.*, for stove species, 55° to 65°, **Sept.** to **Mar.**; 70° to 80°, **Mar.** to **Sept.**; for greenhouse species, 45° to 55°, **Sept.** to **Mar.**; 55° to 61°, **Mar.** to **Sept.** **CULTURE OF HARDY SPECIES**: *Soil*, peat or loam free from lime; or ordinary soil mixed with peat. *Position*, open sunny borders & shrubberies for tall kinds; sunny rockeries for dwarf kinds like *R. hirsutum*, *R. chamæcistus*, *R. ferrugineum*, etc. *Plant*, **Sept.** to **Feb.** or **Ap.**, 3 to 6 ft. apart. *Prune*, **Ap.** *Remove* seed pods directly flowers fade. *Water* copiously in dry weather. *Mulch* choice kinds with 2 to 3 in. of decayed manure in **May**. To ensure flowers annually, thin out flower buds freely in **Ap.** *Apply* liquid cow manure occasionally during **sum.** *Propagate* by seeds sown on surface of sandy peat, slightly covered with fine sand, placed under bell-glass in temp. 55° to 65° if stove or greenhouse kinds, in cold frame if hardy. *Cover* with bell-glass & keep moderately moist. Also by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell glass in temp. 45° to 55° at first, then 10° higher. By layering in **Sept.** or **Mar.** By grafting on common species in a close frame or propagator in **Mar.**

Rhodora (Canadian Rhododendron).—*Ord.* Ericaceæ. Hardy deciduous flowering shrub. *Nat.* N. America. *Int.* 1767. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, rosy purple; **Ap.**; appearing before the leaves. *Soil*, sandy peat. *Position*, moist sunny borders or rockeries. *Plant*, **Oct.** or **Feb.** *Prune* into shape moderately after flowering. *Propagate* by seeds, cuttings, & layering, as advised for rhododendron.

Rhodothamnus (Myrtle-leaved Rhododendron).—*Ord.* Ericaceæ. Hardy evergreen flowering shrub. *Nat.* Alps. *Int.* 1786. *Ht.* 4 to 6 in. *Species* cultivated, 1. *Flowers*, pink; **May**. *Soil*, equal parts peat, loam, & sand. *Position*, fissures between pieces of limestone on rockeries. *Plant*, **Mar.** or **Ap.** *Water* freely in dry weather. *Propagate* by seeds, cuttings, & layering as advised for rhododendron.

Rhodotypos (White Kerria).—*Ord.* Rosaceæ. Hardy deciduous flowering shrub. *Nat.* Japan. *Int.* 1866. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, white; **Ap.** *Soil*, good ordinary. *Position*, against S. or W. walls or fences. *Plant*, **Oct.** to **Mar.** *Prune* in **May** or **June**, cutting off old or weak shoots only. **POT CULTURE**: *Compost*, two parts loam, one part leaf-mould & sand. *Pot*, **Oct.** *Place* in cold greenhouse & water moderately. *After flowering*, place plants in sunny position outdoors till **Oct.** *Forcing*,

place plants in temp. 55° to 65° in Jan. *Water* moderately. *Transfer* plants to sunny position outdoors after flowering. *Propagate* by cuttings of young shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or hand-light or in cold frame in sum.; layering shoots in Oct.

Rhopalostylis.—*Ord.* Palmaceæ. Stove palms *Orn. foliage. Nat.* Norfolk Island. *Int.* date unknown. *Ht.* 6 to 20 ft. *Species* cultivated, 2. *Leaves*, feather-shaped, green. *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, pots or tubs in moist shady greenhouse or conservatory. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Apply* stimulants occasionally, May to Sept. *Keep* pieces of sulphate of iron on surface of soil to insure deep green foliage. *Syringe* twice daily, Ap. to Sept.; once daily afterwards. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown 1 in. deep in light sandy soil in well drained pot in temp. 75° under bell-glass or in propagator, Mar. or Ap.

Rhubarb (*Rheum rhaiponticum*)—see Rheum.

Rhus (Sumach, Smoke Plant, Wig Tree, Poison Ivy, Poison Oak, Japan Lacquer or Varnish Tree, Vinegar Tree, Poison Elder, Stag's-horn Sumach).—*Ord.* Anacardiaceæ. Greenhouse & hardy deciduous trees. Flowering & orn. foliage. *Nat.* N. America, Portugal, Spain, Taurus, Cape of Good Hope, Japan, Caucasus. *Int.* 1629. *Ht.* 1 to 30 ft. *Species* cultivated, about 11 hardy; 3 greenhouse. *Flowers*, yellow, white, purple; Ap. to July. *Leaves*, entire, or once divided, green. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part leaf mould, half a part sand. *Position*, pots in light greenhouse. *Pot*, Jan. to Feb. *Prune*, Jan. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 40° to 50°. **CULTURE OF HARDY SPECIES:** *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune* flowering species moderately after blooming; others in Nov. or Dec. *Propagate* greenhouse species by cuttings of firm shoots, 2 to 3 in. long, inserted in sand under bell-glass, in temp. 55° to 65° sum.; hardy species by cuttings of firm shoots, 6 to 8 in. long, inserted in ordinary soil in cold frame or under hand light, Oct. to Nov.; cuttings of roots, 2 to 3 in. long, planted 3 in. deep in sandy soil, Oct. or Nov.; layering shoots in autn.

Rhynchospermum (Chinese Jasmine, Chinese Ivy).—*Ord.* Apocynaceæ. Greenhouse evergreen climbing shrub. Flowering. *Nat.* Shanghai. *Int.* 1846. *Ht.* 10 to 15 ft. *Species* cultivated, 1; varieties, 2. *Flowers*, white; fragrant; sum. *Compost*, equal parts peat, loam, & silver sand. *Position*, pots with shoots trained to wire trellis, or well drained beds or borders with shoots trained up pillars, rafters, or walls. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Syringe* daily except when flowering. *Prune* moderately after flowering. *Shade* from sun essential. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 45° to 55°. *Propagate* by cuttings of firm young shoots, 2 to 3 in. long, inserted in well drained pots of sandy peat placed under bell-glass in temp. 65° to 75°, spring or sum.

Ribbed-leaved Barberry (*Berberis nervosa*)—see Berberis.

Ribbon-grass (*Phalaris arundinacea variegata*)—see Phalaris.

Ribes (White, Red, & Black Currant, Gooseberry).—*Ord.* Saxifragaceæ. Hardy deciduous fruit bearing & flowering shrubs. *Nat.* red, white & black currant & gooseberry, Britain; other species, N. America, Siberia, Russia, Nepal, Chili. *Ht.* 6 in. to 8 ft. *Species* cultivated, 57; varieties many. *Flowers*, white, crimson, & yellow; spring. *Berries*, black, red, white. **CULTURE OF BLACK CURRANT** (*R. nigrum*): *Soil*, good ordinary. *Position*, sunny. *Plant*, 5 ft. apart each way, Nov. to Feb. *Prune*, Nov. to Feb., thinning out old shoots only. *Fruit* borne on shoots of previous growth & on older ones. **CULTURE OF RED AND WHITE CURRANT** (*R. rubrum* & *R. v. album*). *Soil*, good ordinary. *Position*, sunny for early crops; against N. walls or fences for late ones. *Plant*, Nov. to Feb., 5 to 6 ft. apart each way. *Pruning*: Allow as many current year's shoots as age required to

form branches to remain, & shorten remainder to within 1 in. of their base in June or July. Shorten the selected shoots to 4, 6, or 8 in. according to shape of tree, between Nov. & Feb. Cut out old or distorted branches at same time. Keep centres of trees well open. Fruit borne on base of previous years & older shoots only. **CULTURE OF GOOSEBERRY (*R. grossularia*):** Soil, good ordinary. Position, sunny for early crops; against N. or E. walls for late crops. Plant, Nov. to Feb., 5 to 6 ft. apart each way. Pruning: Shorten all weak shoots of current year's growth to within 1 in. of base in June or July. Thin out remaining shoots in winter; shortening those left to 4 or 6 in. Shorten side shoots of trees grown against walls to 1 in. in July. Number of currant & gooseberry trees required to plant 1 acre at 5 ft. apart, 1,742. Cost per 100 trees, 10s. to 12s.; per doz., 3s. to 4s. Manures for currants & gooseberries: (1) Decayed cow, horse, or pig dung applied liberally in autn., & forked lightly into surface of ground. (2) 1½ oz. each of superphosphate of lime & kainit per square yard applied in autn., & 1 oz. of nitrate of soda per square yard, applied in spring. (3) 1 oz. nitrate of soda, ½ oz. each of sulphate of iron & superphosphate, to 1 gall. of water applied occasionally during sum. **CULTURE OF FLOWERING CURRANTS (*R. aureum* & *R. sanguineum*):** Soil, ordinary. Position, sunny. Plant, Oct. to Feb. Prune directly after flowering only. Top-dress with decayed manure in autn. Propagate by seeds sown ½ in. deep in ordinary fine soil outdoors in Sept. or Oct.; by cuttings 6 to 8 in. long, inserted in ordinary soil outdoors, Oct. to Feb.; by layering in autn.; suckers, Nov. to Feb.

Riccarton's Fuchsia (*Fuchsia Riccartoni*)—see Fuchsia.

Rice-flower (*Pimelea elegans*)—see Pimelea.

Rice's Acacia (*Acacia Riceana*)—see Acacia.

Richardia (Arum or Calla Lily, Lily of the Nile, Trumpet Lily).—*Ord.* Aroidaceæ. Greenhouse herbaceous perennials. *Nat.* S. Africa. *Int.* 1731. *Ht.* 1 to 5 ft. *Species* cultivated, 6; variety 1. *Flowers*, white, yellow, purple; spring & sum. **CULTURE OF R. AFRICANA (Arum Lily):** Compost, equal parts loam, cow manure, & coarse silver sand. Position, greenhouse or dwelling room, Oct. to May; outdoors remainder of year. *Repot* annually in Aug. or Sept. *Water* moderately, Sept. to Mar.; freely, Mar. to May. *Apply* stimulants once a week during flowering period. Plant 15 in. apart in ordinary rich soil in sunny position outdoors in May, lift & repot in Aug. or Sept., singly in 5 or 6-in. pots. Supply freely with water in dry weather when outdoors. *Suitable stimulants*, ½ oz. of Peruvian guano, 1 teaspoonful of Albert's or Clay's manures, ½ oz. nitrate of soda or sulphate of ammonia to 1 gall. of water. *Temp.* Sept. to Mar., 40° to 55°; Mar. to May, 60° to 60°. **CULTURE OF R. ELLIOTIANA, R. PENTLANDI, ETC.:** *Compost*, same as for *R. africana*. Position, greenhouse, Oct. to June; cold frame remainder of year. *Repot* annually in Feb. *Water* moderately, Feb. to Ap. & Aug. to Oct.; freely, Ap. to Aug.; keep nearly dry, Oct. to Feb. *Apply* stimulants during flowering period. *Propagate* by seeds sown ½ in. deep in loam, leaf-mould, & sand, in temp. 65° to 75° in spring; division of plants when planting outdoors or repotting; suckers removed at potting time.

Richardson's Jacob's Ladder (*Polemonium Richardsoni*)—see Polemonium.

Rich-weed (*Collinsia canadensis*)—see Collinsia.

Ricinus (Castor Oil Plant, Castor Bean, Red Castor Bean, Palma Christi).—*Ord.* Euphorbiaceæ. Half hardy annual herb. *Orn.* foliage. *Nat.* Tropical Africa. *Int.* 1548. *Ht.* 3 to 6 ft. *Species* cultivated, 1; varieties, several. *Flowers*, insignificant. *Leaves*, hand-shaped, large, green, purplish. **INDOOR CULTURE:** Sow seeds, previously steeped for a few hours in tepid water, ½ in. deep in pots of light sandy soil in temp. of 70° to 75° in Mar., transplanting seedlings when three leaves form singly into 2-in. pots, & keep in similar temp. until well rooted, then transfer to 5 or 6-in. pots, after which remove to cool greenhouse or dwelling room. *Water* moderately. *Shade*

from sun. **OUTDOOR CULTURE:** Sow seeds & transplant into small pots as above. Transfer to cold frame or pit in May to harden. Plant out, June. *Position*, sunny beds or borders.

Rigid Shield Fern (*Lastrea rigida*)—see *Lastrea*.

Rigid Three-branched Polypody (*Polypodium calcareum*)—see *Polypodium*.

Rimu-tree (*Dacrydium cupressinum*)—see *Dacrydium*.

Ring-flowered Pink (*Dianthus plumarius annulatus*)—see *Dianthus*.

Ring-worm Shrub (*Cassia alata*)—see *Cassia*.

River Birch (*Betula nigra*)—see *Betula*.

River Bull-rush (*Scirpus fluviatilis*)—see *Scirpus*.

River-side Windflower (*Anemone rivularis*)—see *Anemone*.

Riviera Bind-weed (*Convolvulus althæoides*)—see *Convolvulus*.

Rivina (Blood Berry, Carpenter's Herb, Rouge Berry, Rouge Plant).—*Ord.* Phytolaccaceæ. Stove evergreen berry-bearing plants. *Nat.* Caribbean Islands. *Int.* 1699. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, rose, white; June to Oct.; succeeded by scarlet or yellow berries. *Compost*, equal parts leaf-mould & sandy loam, half a part silver sand. *Position*, small well drained pots in light part of stove, Sept to June; cold sunny frames, June to Sept. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally, Oct. to Feb. *Shade* from sun. *Best* results obtained by raising plants from seed or cuttings annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots or shallow pans of good light soil placed in temp. 55° to 65°, spring; cuttings of young shoots inserted in Feb., Mar. or Ap. in small pots of light sandy soil in temp. of 65° to 75°, spring.

Roan-tree (*Pyrus auruparia*)—see *Pyrus*.

Roast-beef-plant (*Iris fœtidissima*)—see *Iris*.

Robinia (False Acacia, Rosy Acacia, Clammy Acacia, Locust Tree, Fragrant Locust Tree, Bristly Locust Tree).—*Ord.* Leguminosæ. Hardy deciduous flowering trees & shrubs. *Nat.* N. America. *Int.* 1640. *Ht.* 3 to 60 ft. *Species* cultivated, about 4; varieties many. *Flowers*, rose, pink, white; May to July. *Soil*, ordinary. *Position*, sunny well drained borders & shrubberies. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb. *Rose acacia* (*R. hispida*) may be grown against S. or W. walls, side shoots being pruned annually to 1 in. of base, Nov. or Dec. *Propagate* choice varieties by grafting on common species (*R. pseudo-acacia*) in Mar.; other kinds by seeds sown $\frac{1}{2}$ in. deep in ordinary soil outdoors, Nov. or Mar.; cuttings of shoots, 6 to 8 in. long, inserted in ordinary soil in sheltered position outdoors in autn.; suckers removed from parent tree & planted Oct. or Nov.; layering, Sept. or Nov.

Robinson's Iris (*Iris Robinsoniana*)—see *Iris*.

Rochea.—*Ord.* Crassulaceæ. Greenhouse succulent plants. *Nat.* Cape of Good Hope. *Int.* 1795. *Ht.* 1 to 8 ft. *Species* cultivated, 1. *Flowers*, crimson; June to Sept. *Compost*, equal parts sandy loam, brick rubble, dried cow manure, & river sand. *Position*, well drained pots in light greenhouse, close to glass. *Pot*, Mar. *Water* freely, Ap. to Aug.; moderately, Aug. to Nov.; very little afterwards. *Prune* old plants after flowering, shortening shoots to 1 in., & reject when new shoots are 1 in. long. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 50°. *Propagate* by seeds sown in well drained pots or pans of sandy soil, just covering seeds with fine mould, in temp. 60° to 70° in Mar. or Ap.; seedlings to be kept close to glass & have little water; cuttings of shoots, 2 to 3 in. long, exposed to sun for few days, then inserted in June, July, or Aug. in well drained pots of sandy soil, placed on a greenhouse shelf & given very little water.

Rock-brake Fern (*Allosorus crispus*)—see *Allosorus*.

Rock Broom (*Genista tinctoria*)—see *Genista*.

- Rock Buckthorn** (*Rhamnus saxatilis*)—see *Rhamnus*.
Rock Candytuft (*Iberis saxatilis*)—see *Iberis*.
Rock Cinquefoil (*Potentilla rupestris*)—see *Potentilla*.
Rock Cress (*Arabis albida*)—see *Arabis*.
Rock Daphne (*Daphne rupestris*)—see *Daphne*.
Rock Forget-me-not (*Omphalodes Luciliae*)—see *Omphalodes*.
Rock Gooseberry (*Ribes saxatile*)—see *Ribes*.
Rock Gromwell (*Lithospermum petraeum*)—see *Lithospermum*.
Rock Heron's-bill (*Erodium petraeum*)—see *Erodium*.
Rock Jasmine (*Androsace chamaejasme*)—see *Androsace*.
Rock Knot-weed (*Polygonum vacciniifolium*)—see *Polygonum*.
Rock Lychnis (*Lychnis Lagascae*)—see *Lychnis*.
Rock Mad-wort (*Alyssum saxatile*)—see *Alyssum*.
Rock Maple (*Acer saccharinum*)—see *Acer*.
Rock Navel-wort (*Omphalodes Luciliae*)—see *Omphalodes*.
Rock Pink (*Dianthus petraeus*)—see *Dianthus*.
Rock Purslane (*Calandrinia umbellata*)—see *Calandrinia*.
Rock Red Currant (*Ribes petraeum*)—see *Ribes*.
Rock-rose (*Cistus vulgaris*)—see *Cistus*.
Rock Snapdragon (*Antirrhinum rupestre*)—see *Antirrhinum*.
Rock Soap-wort (*Saponaria ocyroides*)—see *Saponaria*.
Rock Speedwell (*Veronica saxatilis* & *V. rupestris*)—see *Veronica*.
Rock Stone-crop (*Sedum rupestre*)—see *Sedum*.
Rock Wallflower (*Erysimum pulchellum*)—see *Erysimum*.
Rock-wood Lily (*Ranunculus Lyalli*)—see *Ranunculus*.
Rock Yarrow (*Achillea rupestris*)—see *Achillea*.
Rocket Larkspur (*Delphinium ajacis*)—see *Delphinium*.
Rocky Mountain Columbine (*Aquilegia canadensis*)—see *Aquilegia*.
Rocky Mountain Vervain (*Verbena montana*)—see *Verbena*.
Rodgersia (*Rodgersia* *Bronze-leaf*).—*Ord.* Saxifragaceae. Hardy herbaceous perennial. *Orn.* foliage. *Nat.* Japan. *Int.* 1880. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, yellow, white; June & July. *Leaves*, very large, hand-shaped, bronzy green. *Compost*, two parts peat, one part loam. *Position*, partially shaded border. *Plant*, Mar. or Ap. *Water* freely in dry weather. *Protect* in severe weather with covering of fern fronds or litter. *Propagate* by division of rhizomes, Mar. or Ap.
Rodriguezia.—*Ord.* Orchidaceae. Stove epiphytal orchids. *Nat.* Tropical America. *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, about 6. *Flowers*, yellowish, white, mauve, salmon, rose; Mar. to July. *Compost*, sphagnum moss only. *Position*, blocks of wood or baskets suspended from roof. *Place* on blocks, or in baskets, Feb. or Mar. *Water* freely, Mar. to Sept.; moderately other times. *Shade* from sun. *Moist* atmosphere very essential in sum. *Temp.*, Oct. to Feb., 50° to 60°; Feb. to Oct., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.
Roetzli's Begonia (*Begonia Roetzli*)—see *Begonia*.
Rogue's Gilliflower (*Hesperis matronalis*)—see *Hesperis*.
Rohdea.—*Ord.* Liliaceae. Hardy herbaceous perennial. *Orn.* foliage *Nat.* Japan. *Int.* 1783. *Ht.* 1 to 2 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; June to Ap. *Leaves*, lance-shaped, green, or variegated with white. *INDOOR CULTURE*: *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, well drained pots in cool greenhouse, frame, or dwelling room. *Pot*, Feb. or Mar. *Water* liberally, Ap. to Oct.; moderately afterwards. *Repot* annually. *Apply* stimulants occasionally during sum. *Shade* from sun. *OUTDOOR CULTURE*: *Soil*, good ordinary. *Position*, sunny well drained border or rockery. *Plant*, Mar. or

Ap. *Protect* in severe weather with covering of fern or litter. *Propagate* by division of rhizomes, Mar. or Ap.

Roman Camomile (*Anthemis nobilis*)—see *Anthemis*.

Roman Heron's-bill (*Erodium romanum*)—see *Erodium*.

Roman Laurel (*Laurus nobilis*)—see *Laurus*.

Roman Wormwood (*Artemisia pontica*)—see *Artemisia*.

Romanzoffia (Sitka Water-leaf).—*Ord.* Hydrophyllaceæ. Hardy perennial herb. *Nat.* Sitka. *Int.* 1873. *Ht.* 3 to 4 in. *Species* cultivated, 1. *Flowers*, white; *Ap.* *Soil*, ordinary. *Position*, sunny ledges of sunny rockery. *Plant*, Mar. or Ap. *Propagate* by division, Mar. or Ap.

Romneya (White Bush Poppy).—*Ord.* Papaveraceæ. Half-hardy perennial. *Nat.* California. *Int.* 1875. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, white; *sum.* **OUTDOOR CULTURE:** *Soil*, sandy peat. *Position*, well drained elevated border at base of S. wall, or sheltered sunny rockery. *Plant*, Ap. or May. *Protect* in severe weather with covering of fern or litter. **INDOOR CULTURE:** *Compost*, equal parts, peat, leaf-mould, & sand. *Position*, well drained pots in light cold greenhouse. *Pot*, Mar. or Ap. *Water* moderately, Ap. to Oct.; keep nearly dry afterwards. *No* stimulants required. *Repot* annually. *Propagate* by seeds sown on compost of fine sandy peat in well drained pots or pans under bell glass in temp. 55° in spring.

Romulea.—*Ord.* Iridaceæ. Greenhouse or half-hardy bulbous plants. *Nat.* Cape of Good Hope, S. Europe. *Int.* 1739. *Ht.* 6 in. *Species* cultivated, about 8. *Flowers*, yellow, violet, lilac, rose; *Mar.* to Aug. **OUTDOOR CULTURE:** *Soil*, light rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing tubers 4 in. deep & 2 in. apart. *Plant* & replant tubers annually. *Mulch* surface of bed in Mar. with cow manure. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pots*, 4 in. in diameter, well drained. *Place* five tubers 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time plants begin to grow until flowers fade, then gradually withhold it, keeping dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times 50° to 60°. *Propagate* by offsets treated as advised for tubers.

Rondeletia.—*Ord.* Rubiaceæ. Stove evergreen flowering shrubs. *Nat.* W. Indies, Tropical America. *Int.* 1752. *Ht.* 4 to 6 ft. *Species* cultivated, about 10. *Flowers*, white, pink, rose, yellow; fragrant; *July* to Sept. *Compost*, equal parts rough fibrous peat & loam, one part equal proportions charcoal lumps, & coarse silver sand. *Position*, well drained pots in light part of stove with shoots trained to sticks or trellis. *Pot*, Feb. or Mar. *Prune* moderately after flowering. *Water* freely, Ap. to Oct.; moderately afterwards. *Shade* daily, Mar. to Sept. *Shade* from bright sunshine. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 50° to 55°. *Propagate* by cuttings of firm shoots inserted in pure sand under bell glass in temp. 75° to 85° spring or sum.

Ronnbergia.—*Ord.* Bromeliaceæ. Stove perennial herb. Flowering & orn. foliage. *Nat.* New Granada. *Int.* 1874. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, blue; *sum.* *Leaves*, oblong, bright green, bordered or striped with deeper green. *Compost*, equal parts fibrous loam, rough peat, leaf-mould, & silver sand. *Pot*, Mar. *Water* freely always. *Good drainage* essential. *Temp.*, Sept. to Mar., 65° to 75°; Mar. to Sept., 70° to 80°. *Propagate* by large-sized offshoots inserted singly in small pots of sandy peat in temp. 85° in Ap.

Room-plant (*Ruellia tinctoria*)—see *Ruellia*.

Rooting - branched Trumpet - flower (*Tecoma radicans*)—see *Tecoma*.

Rosary-plant (*Abrus precatorius*)—see *Abrus*.

Rosa (Rose).—*Ord. Rosaceæ*. Hardy & half-hardy evergreen & deciduous trees & shrubs. *Nat. Austrian Rose*, Germany, 1596; *Banksian Rose*, China, 1807; *Boursault*, 1683; *China*, Monthly, or Tea-scented Rose, China, 1789; *Damask Rose*, Syria, 1593; *Dog or Briar Rose*, Britain; *Evergreen Rose*, 1629; *French Rose*, 1596; *Japanese Rose*, Japan, 1845; *Macartney Rose*, China, 1795; *Musk & Noisette Rose*, Bombay, 1596; *Polyantha Rose*, China, 1822; *Provence*, Moss & Cabbage Rose, Caucasus, 1595. *Sweet Briar*, Britain. *Ht.* 9 in. to 20 ft. *Species* cultivated, about 40; hybrids & varieties innumerable. *Flowers*, white, pink, yellow, red, & intermediate shades; all seasons; more or less fragrant. **CLASSIFICATION**: (a) *Summer-blooming*—May, June, & July.—*Boursault*—Example *Amadis*; *Sulphurea*—Ex. *Double Yellow*; *Scotch*; *Damask*—Ex. *York & Lancaster*; *Provence*—Ex. *Old Cabbage Rose*; *Pompon*—Ex. *De Meaux*; *Moss*—Ex. *Common Moss Rose*; *French*—Ex. *Village Maid*; *Hybrid French*—Ex. *Duchesse d'Orleans*; *Hybrid Chinese*—Ex. *General Jacquemont*; *Hybrid Noisette*—Ex. *Madame Plantier*; *Hybrid Bourbon*—Ex. *Charles Lawson*; *Alba*—Ex. *Maiden's Blush*; *Sweet Briar*; *Austrian Briar*—Ex. *Austrian Copper*; *Ayrshire*—Ex. *Ruga*; *Evergreen*—Ex. *Felicité Perpetue*; *Multiflora*—Ex. *De la Giffraie*; *Polyantha*—Ex. *Grandiflora*; *Prairie*—Ex. *Baltimore Belle*; *Banksian*—Ex. *White or Yellow Banksian*. (b) *Autumn-blooming*—May to Nov.—*Ayrshire Perpetual*—Ex. *Madame Vivand Morel*; *Polyantha Perpetual*—Ex. *Mignonette*; *Perpetual Scotch*—Ex. *Stanwell*; *Perpetual Moss*—Ex. *Blanche Moreau*; *Macartney*—Ex. *Alba Simplex*; *Clymophylla*—Ex. *Duplex*; *Barberry-leaved*—Ex. *Hardii*; *Microphylla*—Ex. *Ma Surprise*; *Rugosa*; *Hybrid Perpetual*—Ex. *Mrs. J. Laing*; *Bourbon Perpetual*—Ex. *Madame Isaac Pereire*; *Bourbon*—Ex. *Souvenir de Malmaison*; *Rose de Rosomaine*—Ex. *Geant de Batailles*; *Orimion Chinese*—Ex. *Sanguinea*; *Chinese*—Ex. *Common or Monthly Rose*; *Fairy or Lawrenceana*—Ex. *Fairy*; *Tea-scented*—Ex. *Gloire de Dijon*; *Musk*—Ex. *Double White*; *Noisette*—Ex. *Aimée Vibert*; *Noisette Perpetual*—Ex. *Madame Auguste Perrier*. **Fruiting Roses**:—*Dog Rose* (*R. canina*); *Japanese Rose* (*R. rugosa*); *Apple bearing Rose* (*R. mollis pomifera*); *Sweet Briar* (*R. rubiginosa*); *Polyantha Rose* (*R. multiflora grandiflora*). **Climbing types**: *Summer-blooming*—*Alpine* or *Boursault*, *Banksian*, *Ayrshire*, *Evergreen*, *Multiflora*, *Hybrid Musk*; *autumn-blooming*—*Hybrid Ayrshire*, *Musk*, *Noisette*, & *Tea-scented*. **Dwarf types**: *Summer blooming*—*Moss*, *Provence*, *Pompon*, *Austrian*, *Hybrid Chinese*, *Bourbon*, & *Noisette*, *Scotch*, *Damask*, *Alba*, & *French*; *autumn-blooming*—*Polyantha*, *Macartney*, *Microphylla*, *Rugosa*, *Perpetual Scotch*, *Damask Perpetual*, *Barberry-leaved*, *Perpetual Moss*, *Hybrid Perpetual*, *Chinese*, *Bourbon*, *Noisette*, & *Tea-scented*. **CULTURE OF SUMMER ROSES**: (1) *Alba Rose* (*R. alba*).—Hardy. Moderate growers. Dwarf. Ordinary soil, richly manured well drained bed or border; sunny sheltered position. Plant, Nov. to Mar. Prune previous year's shoots to 2 or 3 "eyes" in Mar. (2) *Alpine or Boursault Rose* (*R. alpina*).—Hardy. Vigorous climbers. Ordinary rich soil, against E. or N. walls, trellises, arbours, or pillars. Plant, Nov. to Mar. Prune in Mar., thinning out weak shoots & removing tips of strong ones. (3) *Austrian Rose* (*R. lutea*).—Hardy. Moderate grower. Dwarf. Ordinary soil. Sunny border. Plant, Nov. or Mar. Prune in Mar., removing tips of strong & thinning out weak shoots. (4) *Ayrshire Rose* (*R. arvensis*).—Hardy. Robust climber. Ordinary rich soil, E. or N. walls, trellises, etc. Plant, Nov. to Mar. Prune in Mar., as advised for No. 2. (5) *Banksian Rose* (*R. Banksian*).—Half-hardy. Climbers. Good loam liberally enriched with cow manure. Sunny south wall & well drained border. Plant, Ap. to June. Prune after flowering, removing gross shoots & tips of remainder. (6) *Cabbage or Provence Rose* (*R. centifolia*).—Hardy. Dwarf grower. Ordinary soil, liberally enriched with cow or pig manure. Sunny beds or borders. Plant, Nov. to Mar. Prune strong shoots to 3 or 4 "eyes"; moderate ones to 1 or 2 "eyes," & remove weak shoots in Mar. (7) *Damask Rose* (*R. damascena*).—Hardy. Dwarf growers. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune strong shoots to 6 or 8 in.; moderate ones to 3 in., & remove.

weak ones in Mar. (8) *Double Yellow* (*R. sulphurea*).—Half-hardy. Dwarf. Deep, rich loam. Well drained border at base of south wall. Plant, Ap. to June. Prune strong shoots to 6 or 9 "eyes"; weak ones to 5 or 6 "eyes." (9) *Evergreen Rose* (*R. sempervirens*).—Hardy. Vigorous climber & nearly evergreen. Ordinary soil. East & north walls, pillars, trellises, etc. Plant, Nov. to Mar. Prune in Mar., thinning out weak shoots freely, & removing tips of strong ones. (10) *French Rose* (*R. gallica*).—Hardy. Dwarf. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune shoots to 4, 5, or 6 "eyes," according to size, & thin weak ones out well. (11) *Hybrid Bourbon* (*Rosa gallica*).—Hardy. Dwarf. Deep rich loam. Sunny position. Plant, Ap. Prune shoots 6 to 12 "eyes," according to size, in Mar. & thin out heads freely in Nov. (12) *Hybrid Chinese* (*R. gallica* var.).—Hardy. Dwarf. Require similar soil, position, & pruning to No. 11. (13) *Hybrid French* (*R. gallica* var.).—Hardy. Dwarf. Ordinary soil & sunny position. Plant, Nov. to Mar. Prune same as No. 11. (14) *Hybrid Noisette* (*Rosa gallica* var.).—Hardy climber. Ordinary rich soil. Pillars, west or south walls, trellises, etc. Plant, Nov. to Mar. Prune tips of strong shoots, & thin out weak ones in Mar. (15) *Moss Rose* (*R. centifolia muscosa*).—Hardy. Rich soil, liberally manured. Sunny position. Plant, Nov. to Mar. Prune strong shoots to 3 or 4 "eyes"; others to 1 & 2 "eyes" in Mar. (16) *Multiflora Rose* (*R. multiflora*).—Hardy & half-hardy climbers. Hardy kinds adapted for pillars or trellises; half-hardy for south walls. Ordinary rich soil. Plant, Ap. to June. Prune tips off the strongest shoots; shorten medium ones moderately, & remove weak ones in Ap. (17) *Polyantha Rose* (*R. multiflora* syn. *R. polyantha*).—Half-hardy climbers. Require rich soil, south wall, & sheltered position. Plant, Mar. or Ap. Prune same as No. 16. (18) *Pompon or Miniature Provence Rose* (*R. centifolia* var.).—Hardy. Very dwarf. Adapted for edging to rose beds. Ordinary rich soil & sunny position. Plant, Mar. or Ap. Prune to 2 or 3 "eyes" in Ap. (19) *Prairie Rose* (*R. rubifolia*).—Hardy. Climber. Ordinary soil, sunny walls, trellises, or pillars. Plant, Nov. to Mar. Prune off tips of strong shoots, & thin out remainder in Mar. (20) *Scotch Rose* (*R. spinosissima*).—Hardy. Dwarf. Ordinary soil. Sunny banks. Plant, Nov. to Mar. Simply thin out shoots in Nov. (21) *Sweet Brar* (*R. rubiginosa*).—Hardy. Dwarf. Ordinary soil. Sunny borders. Plant, Nov. to Mar. Prune, Mar., thinning out weak shoots & shortening strong ones moderately. CULTURE OF AUTUMN ROSES: (22) *Ayrshire Perpetual* (*R. arvensis* var.).—Habit & culture similar to No. 4. (23) *Barberry-leaved Rose* (*R. berberifolia*).—Half-hardy. Dwarf. Ordinary soil. South wall. Plant, Ap. to June. Prune, Ap. (24) *Bourbon Rose* (*R. indica Bourboniana*).—Hardy. Dwarf or pillar roses. Ordinary rich soil. Sunny sheltered borders. South walls or trellises. Plant, Nov. or Mar. Prune shoots of strong growing sorts one-third, & weakest two-thirds; those of moderate growth to 3 or 4 "eyes," in Ap. (25) *Bourbon Perpetual* (*R. indica* var.).—Hardy. Moderate growers. Ordinary rich soil. Sunny position. Plant, Nov. to Mar. Prune strong shoots to 3 or 4 "eyes"; weak ones to 1 or 2 "eyes." (26) *Chinese or Monthly Rose* (*R. indica*).—Hardy. Dwarf. Rich, well drained soil. Sunny position. Plant, Ap. to June. Prune in Oct., thinning out shoots moderately; also in Ap. shortening strong shoots to a foot; moderate ones to 8 in.; weak ones to 3 in. (27) *Climophylla Rose* (*R. lucida*).—Half-hardy. Moderate grower. Evergreen. Rich soil. South or west wall. Plant, Ap. to June. Prune as advised for No. 9. (28) *Crimson Chinese* (*R. semperflorens*).—Hardy. Climbing, & of moderate growth. Ordinary rich soil. South or south-west walls or sunny borders. Plant, Ap. to June. Prune strong shoots to 6 or 8 in.; moderate ones to 3 in.; weak ones remove altogether. (29) *Hybrid Perpetuals* (*R. damascena* var.).—Hardy. Dwarf. Deep, rich soil. Sunny position. Plant, Nov. to Mar. Prune in Oct., thinning out shoots moderately; also in Mar. shortening strong shoots to 4 or 6 in.; moderate ones to 3 & 2 in. (30) *Lawrenciana or Fairy Rose* (*R. indica Lawrenciana*).—Half-hardy. Light rich soil. Sunny dryish beds or borders. Plant, Ap. to June.

Prune, Ap., shortening strong shoots one-third, & others two-thirds. (31) *Macartney Rose* (*R. bracteata*).—Half-hardy. Evergreen & climbing. Ordinary rich soil. South or south-west walls. Plant & prune as advised for No. 27. (32) *Microphylla Rose* (*R. microphylla*).—Half-hardy. Dwarf. Sandy soil. South wall, well drained border. Plant, Ap. Prune, Ap., thinning out weak shoots only. (33) *Musk Rose* (*R. moschata*).—Hardy. Vigorous climber. Deep rich soil. South or south-west wall. Plant, Nov. or Mar. Prune, Ap., shortening long shoots one-third, & others two-thirds. (34) *Noisette Rose* (*R. moschata* var.).—Hardy. Climbers. Ordinary rich soil. South or west walls, trellises, arbours, etc. Plant, Ap. to June. Prune as advised for No. 33. (35) *Noisette Perpetual Rose* (*R. moschata* var.).—Similar culture to No. 34. (36) *Perpetual Moss Rose* (*R. centifolia*).—Require same treatment as No. 15. (37) *Perpetual Scotch Rose* (*R. spinosissima*).—See No. 20 for cultural details. (38) *Polyantha Perpetual Rose* (*R. multiflora*).—See No. 17. (39) *Rosamane Rose* (*R. indica*).—Hardy. Dwarf. Ordinary rich soil. Sunny beds or borders. Plant, Nov. to Mar. Prune as advised for No. 29. (40) *Rugosa Rose* (*R. rugosa*).—Hardy. Evergreen. Dwarf. Ordinary soil. Sunny borders. Plant, Nov. to Ap. Prune, Ap., thinning out shoots only. (41) *Tea-scented Rose* (*R. indica* var.).—Hardy. Climbers & dwarf growers. Light rich soil. South walls for climbing sorts; sunny well drained beds for dwarf varieties. Plant, Ap. to June. Prune in Ap., shortening strong shoots to 6 or 8 in., moderate ones to 4 in., & thinning out weak ones. **POT CULTURE OF ROSES:** Classes of roses suitable for pot culture.—Hybrid Perpetual, Hybrid Chinese & Bourbon, Bourbon, Tea-scented, Polyantha, Moss, Provence, & Lawrenceana. *Compost*, two parts turfy loam, two parts decomposed cow or hotbed manure; one part of equal proportions of charred earth & sand. *Pot*, Oct. *Repot* annually in Aug. or Sept. *Prune* newly lifted & potted plants in Nov., shortening shoots to 3, 2, & 1 "eyes," according to size; established plants of hybrid perpetuals, moss, provence, bourbons, & Chinese to 6, 3, & 2 "eyes"; also tea-scented, Chinese, fairy, & polyantha kinds to 8, 6, & 4 "eyes" in Nov. for early flowering; Dec. or Jan. for late flowering. *Position*, sheltered corner outdoors, with pots protected from frost by straw, or in cold frame, Oct. to Jan.; greenhouse, Jan. to May; sunny place outdoors afterwards. *Water* moderately, Jan. to Ap.; freely, Ap. to Oct. Keep nearly dry, Oct. to Jan. *Apply* stimulants once or twice a week during flowering period. *Syringe* freely in greenhouse. *Temp.* for forcing, Jan., 40° by night & 45° by day; Feb., 45° at night & 55° by day; Mar. & onwards, 55° by night & 60° to 65° by day. *Plants for forcing* require to be established in pots one year. **CULTURE OF CLIMBERS IN GREENHOUSE:** *Compost*, same as for pots. *Beds or tubs* for each plant, 18 in. deep & 2 ft. wide. Each bed or tub to be provided with 3 in. of drainage. *Plant*, Sept. to Nov. or Mar. *Prune* shoots first year to within 8 in. of base at time of planting; second & future years to 6 or 8 in. immediately after flowering. *Water* freely, Mar. to Nov.; keep nearly dry afterwards. *Apply* stimulants weekly, Ap. to Sept. to established plants. *Syringe* daily in spring. *Admit* air freely in sum. & autn. to ripen shoots. **SUITABLE SOLID MANURES:** (1) Cow or pig dung for light, & horse dung for heavy soils, applied as a mulch in autn., & dug in in spring. (2) Blood applied in moderate quantities at any time & dug in. (3) Native guano, $\frac{1}{2}$ lb. per square yard, forked in in Ap. (4) Beeson's manure, handful per plant, applied as No. 3. (5) Peruvian guano, 1 oz. per square yard, applied as No. 3. (6) Standen's manure, 1 oz. per square yard, applied in Mar. **SUITABLE LIQUID MANURES:** (7) $\frac{1}{2}$ oz. superphosphate of lime, $\frac{1}{2}$ oz. each sulphate of iron & sulphate of ammonia to 2 galls. of water, applied once a fortnight, Ap. to Aug. to outdoor roses; once a week to pot & climbing roses indoors. (8) $\frac{1}{2}$ oz. Clay's fertilizer to 1 gall. of water, applied twice a week. (9) $\frac{1}{2}$ oz. sulphate of ammonia or nitrate of soda to 1 gall. of water applied once a week during flowering period to plants outdoors or in pots. **STOCKS FOR ROSES:** Common briar or dog rose for standards & half standards; seedling & cutting briar, manetti & de la grifferaie for dwarfs.

Best adapted for heavy soil—Dog rose, seedling, & cutting briar. *Best adapted for light soil*—Manetti & de la grifferaie. *Distance for planting*—Dwarfs, 18 in. to 2 ft.; half standards, 2½ ft.; standards, 3 ft.; climbers, 5 ft. *Depth for planting*—4 to 6 in. on heavy soils; 6 to 8 in. on light soils. *Protection in winter*—Draw soil up close to base of dwarf teas, fairy, polyantha, & China roses in Dec.; also cover shoots lightly in severe weather with bracken, litter, etc.; and plants against walls with mats. *Propagate* by seeds sown ½ in. deep in light sandy soil in cold frame in Mar. or Ap., or ½ in. deep in ordinary soil outdoors in Ap., transplanting seedlings when a year old; cuttings, 6 to 8 in. long, inserted in pots of sandy soil in cold frame in Oct., or in sheltered position outdoors, Sept. to Nov.; or by small side shoots of tea-scented & other kinds removed with a little of old stem attached, & inserted in small pots of light sandy soil in sum. under a bell-glass or in a propagator; by budding in July; grafting in Feb. or Mar. in a temp. 55° to 65°; layering in Sept. or Oct.

Roscoeæ.—Ord. Scitaminaceæ. Stove perennial herb. *Nat. Hima-layas. Int. 1820. Ht. 1 ft. Species cultivated, 1. Flowers, purple; July. Compost, two parts sandy turfy loam, one part leaf-mould, & a little sand. Position, pots in shady part of stove. Pot, Feb. or Mar. Water, copiously, Mar. to Sept.; moderately afterwards. Syringe daily, Ap. to Sept. Temp., Sept. to Mar., 40° to 55°; Mar. to Sept., 60° to 75°. Propagate by division of rhizomes, Feb. or Mar.*

Rose Acacia (*Robinia hispida*)—see Robinia.

Rose Apple (*Eugenia Jambos*)—see Eugenia.

Rose-a-ruby (*Adonis autumnalis*)—see Adonis.

Rose-bay (*Nerium oleander* & *Epilobium angustifolium*)—see Nerium & Epilobium.

Rose-bay Tree (*Nerium oleander*)—see Nerium.

Rose-bay Willow-herb (*Epilobium angustifolium*)—see Epilobium.

Rose-box (*Cotoneaster microphylla*)—see Cotoneaster.

Rose Campion (*Lychnis coronaria*)—see Lychnis.

Rose-coloured Christmas Rose (*Helleborus orientalis*)—see Helleborus.

Rose-coloured Water Lily (*Nymphaea alba rosea*)—see Nymphaea.

Rose Elder (*Viburnum opulus*)—see Viburnum.

Rose-leaved Bramble (*Rubus rosæfolius*)—see Rubus.

Rosemary (*Rosmarinus officinalis*)—see Rosmarinus.

Rosemary-leaved Box Tree (*Buxus sempervirens rosmarinifolia*)—see Buxus.

Rosemary-leaved Candytuft (*Iberis rosmarinifolia*)—see Iberis.

Rosemary-leaved Gromwell (*Lithospermum rosmarinifolium*)—see Lithospermum.

Rosemary-leaved Lavender-cotton (*Santolina rosmarinifolia*)—see Santolina.

Rosemary-leaved Myrtle (*Myrtus communis mucronata*)—see Myrtus.

Rosemary-leaved Sun-rose (*Helianthemum rosmarinifolium*)—see Helianthemum.

Rosemary Oil-plant (*Rosmarinus officinalis*)—see Rosmarinus.

Rose Oil-plant (*Rosa damascena, R. centifolia, etc.*)—see Rosa.

Rose Pink (*Sabbatia angularis*)—see Sabbatia.

Rose Willow (*Salix purpurea helix*)—see Salix.

Rose-wood-tree (*Pterocarpus erinaceus*)—see Pterocarpus.

Roseate Maidenhair Fern (*Adiantum rubellum*)—see Adiantum.

Rosette Mullein (*Ramondia pyrenaica*)—see Ramondia.

Rosette Rock Cress (*Arabis Androsace*)—see Arabis.

- Rosetted Saxifrage** (*Saxifraga rosularis*)—see Saxifraga.
- Rosin-weed** (*Silphium laciniatum*)—see Silphium.
- Rosy-calyxed Saxifrage** (*Saxifraga calycifolia*)—see Saxifraga.
- Rosy Everlasting** (*Rhodanthe Manglesi maculata*)—see Rhodanthe.
- Rosy-flowered Bramble** (*Rubus spectabilis*)—see Rubus.
- Rosy-flowered Elder** (*Sambucus niger roseiflora*)—see Sambucus.
- Rosy-flowered Feverfew** (*Pyrethrum roseum*)—see Pyrethrum.
- Rosy-flowered Garlic** (*Allium roseum*)—see Allium.
- Rosy-flowered Hydrangea** (*Hydrangea japonica rosea*)—see Hydrangea.
- Rosy-flowered Lead-wort** (*Plumbago rosea*)—see Plumbago.
- Rosy-flowered Loose-strife** (*Lythrum salicaria roseum*)—see Lythrum.
- Rosy-flowered Mountain Everlasting** (*Antennaria dioica minor*)—see Antennaria.
- Rosy-flowered Primrose** (*Primula rosea*)—see Primula.
- Rosy-flowered Rock-cress** (*Arabis rosea*)—see Arabis.
- Rosy-flowered Rose-mallow** (*Hibiscus roseus*)—see Hibiscus.
- Rosy-flowered Snow-flake** (*Leucojum roseum*)—see Leucojum.
- Rosy-flowered Solomon's Seal** (*Polygonatum roseum*)—see Polygonatum.
- Rosy-flowered Stone-crop** (*Sedum roseum & S. rhodanthum*)—see Sedum.
- Rosy-flowered Sun-rose** (*Helianthemum roseum*)—see Helianthemum.
- Rosy-flowered Wood-sorrel** (*Oxalis rosea*)—see Oxalis.
- Rosy Zephyr-flower** (*Zephyranthes rosea*)—see Zephyranthes.
- Rot Grass** (*Pinguicula vulgaris*)—see Pinguicula.
- Rouge-berry** (*Rivina humilis*)—see Rivina.
- Rouge-plant** (*Rivina humilis*)—see Rivina.
- Rough-leaved Cow Parsnip** (*Heracleum elegans*)—see Heracleum.
- Rough-leaved Sunflower** (*Helianthus rigidus*)—see Helianthus.
- Rough-leaved Wych Elm** (*Ulmus montana rugosa*)—see Ulmus.
- Round-headed Horned-Rampion** (*Phyteuma orbiculare*)—see Phyteuma.
- Round-headed Purple Primrose** (*Primula purpurea*)—see Primula.
- Round-leaved Box Tree** (*Buxus sempervirens rotundifolia*)—see Buxus.
- Round-leaved Cotoneaster** (*Cotoneaster rotundifolia*)—see Cotoneaster.
- Round-leaved Cyclamen** (*Cyclamen coum*)—see Cyclamen.
- Round-leaved Maple** (*Acer circinatum*)—see Acer.
- Round-leaved Rest-harrow** (*Ononis rotundifolia*)—see Ononis.
- Round-leaved Saxifrage** (*Saxifraga rotundifolia*)—see Saxifraga.
- Round-leaved Stone-crop** (*Sedum rotundifolium*)—see Sedum.
- Round-leaved Violet** (*Viola rotundifolia*)—see Viola.
- Round-seeded Spinach** (*Spinacia oleracea glabra*)—see Spinacia.
- Roupala**.—Ord. Proteaceæ. Greenhouse evergreen shrubs. Orn. foliage & flowering. *Nat. S. America. Int. 1802. Ht. 6 to 24 ft. Species*, cultivated, 8. *Flowers*, yellow, orange; fragrant; *Ap. to May. Leaves*, simple or feather-shaped, covered with brownish wool. *Compost*, equal parts fibrous loam, leaf-mould, peat, & little sand. *Position*, large pots or tubs in lofty sunny greenhouse or conservatory. *Pot*, Feb. or Mar. *Water* freely, *Ap. to Sept.*; moderately afterwards. *No syringing required. Temp.*, Sept.

to Mar., 45° to 50°; Mar. to Sept., 55° to 65°. *May* be stood outdoors in sunny position, June to Sept. *Propagate* by cuttings of firm shoots, inserted in pure silver sand, in well drained pots, under bell-glass in temp. 55° to 65°, sum.

Rowan-tree (*Pyrus aucuparia*)—see *Pyrus*.

Royal Brunswick Lily (*Brunsvigia Josephinae*)—see *Brunsvigia*.

Royal Fern (*Osmunda regalis*)—see *Osmunda*.

Royal Water-lily (*Victoria regia*)—see *Victoria*.

Royle's Flea-bane (*Erigeron Roylei*)—see *Erigeron*.

Rubber-plant (*Ficus elastica*)—see *Ficus*.

Rubus (Raspberry, Bramble, Blackberry, Salmon-berry, Dewberry, Cloudberry).—*Ord.* Rosaceæ. Greenhouse evergreen flowering shrubs, hardy deciduous berry-bearing shrubs & herbaceous perennials. *Nat.*, Raspberry, Cloudberry, Dewberry, & Blackberry—Britain; other species, S. & N. America, India, Australia, Europe, Japan, Palestine, Madagascar, & Mauritius. *Ht.* 2 in. to 10 ft. *Species* cultivated, 11 greenhouse; 12 hardy evergreen; 63 deciduous; 4 hardy herbaceous. *Flowers*, white, pink; May to Sept. *Fruit*, black, white, red, or yellow; autn. **CULTURE OF RASPBERRY** (*R. Idæus*): *Soil*, deep, rich moist loam, light ordinary or peaty; clay soils unsuitable. *Position*, open sunny, or partially shady one. *Plant*, Oct. to Mar. *Distances for planting*: Singly, 2 ft. apart in the row, & 5 ft. between the rows for training to wire trellis; in groups of three canes, 3 ft. apart in row, & 5 ft. between rows; singly 1 ft. apart in rows 4 ft. asunder for field culture. *Quantity of canes* required to plant 1 acre—10,890. *Approximate cost*: per 100, 18s. to 24s.; per doz., 2s. to 2s. 6d. *Pruning*: Cut canes off to within 6 in. of ground first year; succeeding years, cut off old canes immediately after fruiting close to ground, & reduce number of young canes at each root or stool to three or four of the strongest. Remove tips of latter in Nov. or Dec. *Apply* decayed manure annually in Nov., forking it in 3 in. deep only. *Mulch* with littersy manure in Ap. on dry soil. *Water* copiously with liquid manure during bearing period. *Remove* suckers appearing away from base of "stools." Avoid deep digging. *Chemical manures*: (1) 1½ oz. each of superphosphate of lime & kainit per square yard forked in 2 in. deep in Nov., & 1 oz. of nitrate of soda per square yard applied in Mar. (2) 1½ lb. superphosphate of lime, 1½ lb. of nitrate of soda, 1 lb. of kainit, 3 lbs. common salt per square rod, half applied in Mar., remainder in June. (3) Two parts by weight of nitrate of soda, 1 part superphosphate, 1 part kainit, to be applied at the rate of 2 lbs. per 100 canes in Oct. or Nov. (Griffiths). **CULTURE OF AMERICAN BLACKBERRY** (*R. fruticosus* & varieties): *Soil*, deep rich loam, liberally mixed with old mortar. *Position*, open, sunny. *Plant*, Oct. to Mar, 1 ft. apart in rows 4 ft. asunder. Train shoots to stout wire or wood trellis. *Pruning*: Shorten shoots to within 6 in. of base first year; afterwards cut away old-bearing shoots, & shorten current year's one-fourth in Nov. or Dec. *Manures*: Same as advised for raspberry. **CULTURE OF CLOUDBERRY** (*R. chamaemorus*) & **DEWBERRY** (*R. cæsius*): *Soil*, peaty. *Position*, sunny rockery. *Plant*, Oct., Nov. or Mar. *Water* freely in sum. **CULTURE OF HARDY HERBACEOUS SPECIES** (*R. arcticus*, etc.): *Soil*, two parts peat, one part loam & sand. *Position*, moist shady rockery. *Plant*, Oct., Nov., Mar. or Ap. *Water* freely in dry positions in sum. **CULTURE OF HARDY DECIDUOUS SPECIES** (*R. canadensis*, *R. odoratus*, etc.): *Soil*, ordinary. *Position*, shady or sunny borders or shrubberies. *Plant*, Oct. to Mar. *Prune*, Dec., cutting away old flowering stems. **CULTURE OF GREENHOUSE SPECIES** (*R. rosaflores*, etc.): *Compost*, equal parts loam, peat, leaf-mould, & sand. *Position*, pots in sunny greenhouse, Sept. to June; outdoors remainder of year. *Pot*, Jan. or Feb. *Prune*, Jan. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply weak stimulants* when in bloom. *Temp.*, Sept. to Mar., 40° to 50°, Mar. to June, 55° to 65°. *Propagate* raspberries by seeds sown ½ in. deep in a shady border as soon as ripe, or in shal-

low pans filled with sandy peat & leaf-mould in a cold frame; by suckers or offsets removed & replanted in Nov. Blackberries by seeds as advised for raspberries; also by suckers & layers in Oct. or Nov. Dewberries, Cloudberries & hardy herbaceous species by division, Oct. to May. Greenhouse species by division in Jan. or Feb.; cuttings of roots 2 in. long inserted in sandy peat in spring.

Rudbeckia (Cone-flower).—*Orl.* Compositæ. Hardy herbaceous perennials. *Nat.* N. America. *Int.* 1793. *Ht.* 2 to 6 ft. *Species* cultivated, about 9. *Flowers*, yellow, orange; June to Oct. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* with decayed manure annually, Feb. or Mar. *Lift*, divide, & replant in fresh position triennially. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in ordinary soil & sunny position, Mar. or Ap., transplanting seedlings in flowering positions following autn.; by division of roots, Oct., Nov., Mar. or Ap.

Rue (*Ruta graveolens*)—see *Ruta*.

Rue-anemone (*Thalictrum anemonoides*)—see *Thalictrum*.

Rue-leaved Saxifrage (*Saxifraga tridactylites*)—see *Saxifraga*.

Rue-leaved Spleen-wort (*Asplenium ruta-muraria*)—see *Asplenium*.

Rue Oil-plant (*Ruta graveolens*)—see *Fraxinus*.

Ruellia (Christmas Pride).—*Ord.* Acanthaceæ. Stove perennial herbs or shrubs. *Nat.* Brazil, W. Africa, Buenos Ayres, Mexico, W. Indies, Peru. *Int.* 1768. *Ht.* 1 to 4 ft. *Species* cultivated, 18. *Flowers*, violet, lilac, white, red, yellow, orange; spring, sum., & autn. *Compost*, equal parts fibrous loam, leaf-mould, peat, & silver sand. *Pot*, Feb. or Mar. *Position*, pots in shady part of stove. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* twice daily, Mar. to Sept.; once daily other times. *Apply* weak stimulants during flowering period to perennial species. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by cuttings inserted in above compost in well drained pots under bell-glass, or in propagator in temp. 75° to 85°, spring or sum.

Rumex (Herb Patience, Sorrel).—*Ord.* Polygonaceæ. Hardy perennial herbs. *Nat.* Herb Patience, Italy; Common Sorrel, Britain. *Int.* 1573. *Ht.* 6 in. to 6 ft. *Species* cultivated, 2; varieties several. *Flowers*, green, insignificant. *Leaves*, green, used as a substitute for spinach. **CULTURE OF HERB PATIENCE** (*R. patientia*): *Soil*, ordinary moist. *Position*, open garden. *Plant* 1 ft. apart in rows 18 in. asunder in Mar. *Remove* flower stems directly they appear, & gather leaves frequently. *Propagate* by seeds sown in Mar. 1 in. deep in drills 18 in. apart, thinning seedlings to 1 ft. apart in row in Ap.; division of roots in Mar. **CULTURE OF SORREL** (*R. acetosa*): *Soil*, ordinary rich moist. *Position*, open borders. *Plant*, 1 ft. apart in rows 15 in. asunder in Mar. *Gather* leaves frequently. *Remove* flower stems. *Water* freely in dry weather. *Propagate* by seeds $\frac{1}{2}$ in. deep in drills 15 in. apart in Mar., thinning seedlings to 12 in. apart in Ap.; division of roots in Mar.

Running Oak (*Quercus sericea*)—see *Quercus*.

Rupture-wort (*Herniaria glabra*)—see *Herniaria*.

Ruscus (Butcher's Broom, Box Holly, Jew's Myrtle, Knee Holly, Pettigrue, Prickly Box, Double-leaved Butcher's Broom, Double-Tongue, Alexandrian Laurel, Shepherd's Myrtle).—*Ord.* Liliacæ. Hardy evergreen shrubs. Orn. leaved & berry-bearing. *Nat.* Europe (Britain), N. Africa, Mediterranean. *Int.* (foreign species) 1640. *Ht.* 1 to 2 ft. *Species* cultivated, 3. *Leaves* (cladodes), oval, dark green. *Berries*, round, red; winter. *Soil*, ordinary. *Position*, shady or sunny shrubberies, borders, or woods. *Plant*, Sept., Oct., or Ap. *Prune*, Ap. *Propagate* by suckers removed from parent plants in Sept. or Oct.; division of roots in Oct.

Rush Broom (*Spartium junceum*)—see *Spartium*.

Rush-leaved Daffodil (*Narcissus juncifolius* & *N. triandrus*)—see *Narcissus*.

Rush-leaved Iris (*Iris juncea*)—see *Iris*.

Rush-Lily (*Sisyrinchium grandiflorum*)—see *Sisyrinchium*.

Rush Nut (*Cyperus esculentus*)—see *Cyperus*.

Russelia.—*Ord.* Scrophulariaceæ. Stove evergreen shrubs. Flowering. *Nat. Mex.* Co, Central America. *Int.* 1812. *Ht.* 3 to 4 ft. *Species* cultivated, 3. *Flowers*, red; June to July. *Compost*, equal parts sandy loam, leaf-mould, & silver sand. *Position* in light part of stove. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Prune*, Feb. *Apply* weak stimulants when in flower only. *Syringe* twice daily, Ap. to Oct., except when in flower. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°.

Russian Bast Tree (*Tilia europæa*)—see *Tilia*.

Russian Box Thorn (*Lycium ruthenicum*)—see *Lycium*.

Russian Cedar (*Pinus cembra*)—see *Pinus*.

Russian House-leek (*Sempervivum ruthenicum*)—see *Sempervivum*.

Russian Iris (*Iris ruthenica*)—see *Iris*.

Russian Knap-weed (*Centaurea ruthenica*)—see *Centaurea*.

Russian Lily (*Lilium pulchellum*)—see *Lilium*.

Russian Pink (*Dianthus ruthenicus*)—see *Dianthus*.

Rusty-back (*Blechnum spicant* & *Ceterach officinarum*)—see *Blechnum* & *Ceterach*.

Rusty-leaved Rhododendron (*Rhododendron ferrugineum*)—see *Rhododendron*.

Ruta (Rue).—*Ord.* Rutaceæ. Hardy evergreen shrub. *Nat. S. Europe.* *Int.* 1562. *Ht.* 3 ft. *Species* cultivated, 1. *Flowers*, yellow; sum. *Leaves*, finely divided, bluish green; used for medicinal purposes. *Soil*, ordinary. *Position*, sunny border. *Plant.* Mar., 8 in. apart in rows 18 in. asunder. *Prune* the plants closely in Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills outdoors in Ap.; cuttings or slips inserted in shady border in sum.

Saar's Iris (*Iris Saari*)—see *Iris*.

Sabal (Thatch Palm, Palmetti Palm).—*Ord.* Palmaceæ. Stove orn. leaved palms. *Nat. S. U.S.A.*, Bermudas, W. Indies. *Int.* 1810. *Ht.* 6 to 20 ft. *Species* cultivated, 6. *Leaves*, fan-shaped, green. *Compost*, two parts rich loam, one part decayed leaf mould & sand. *Position*, well drained pots in greenhouse or sheltered well drained beds outdoors in S. of England. *Pot*, Mar. *Plant.* Ap. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 50° to 60°. *Water* moderately in winter; freely in sum. *Propagate* by seeds sown 1 in. deep in light soil in temp. of 80° in Feb. or Mar.; suckers removed from parent plant in Ap. or Aug.

Sabbatia (American Centaury, Rose Pink).—*Ord.* Gentianaceæ. Hardy biennial flowering herbs. *Nat. N. America.* *Int.* 1812. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, pink, rose, purple; sum. *Soil*, equal parts good fibrous loam & finely sifted leaf-mould & little sand. *Position*, moist partially shaded borders or bogs. *Sow* seeds thinly in Ap. where required to grow, lightly cover with soil, thin to 3 or 4 in. apart when an inch high to flower following sum.; or sow seed $\frac{1}{2}$ in. deep in well drained pots or shallow pans filled with equal parts sandy peat & leaf-mould; place in a pan partially filled with water & placed in cold frame or greenhouse. *Transplant* seedlings when an inch high three in a 2-in. pot, in similar compost, keep in cold frame till following Mar., then plant out.

Sabino-tree (*Taxodium distichum*)—see *Taxodium*.

Saccharum (Sugar Cane).—*Ord.* Graminaceæ. Stove & hardy perennial grasses, flowering, & orn. foliage. *Nat.* Sugar Cane (*S. officinarum*), E. Indies; *S. ægyptiacum*, Algeria. *Int.* Sugar Cane, 1597. *Ht.* 7 to 10 ft.

Species cultivated, 2. *Inflorescence*, silky, borne in pyramidal panicles, July. *Leaves*, ribbon-like, green, covered with silky hairs. **CULTURE OF SUGAR CANE** (*S. officinarum*): two parts rich loam, one part leaf-mould or rotten manure & little sand. *Position*, large pots or tubs in lofty stoves. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* twice daily during spring & sum. *Shade* from mid-day sun essential. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. **CULTURE OF S. EGYPTIACUM**: *Soil*, good ordinary. *Position*, margins of beds or lakes, sheltered. *Plant*, May or June. *Propagate* sugar cane by cuttings of stems inserted in light soil in temp. of 70° to 80° in spring, or by suckers removed in Feb. or Mar., & potted singly in above compost. *S. aegyptiacum* by division of roots in Mar. or Ap.

Saccolabium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat. E. Indies & Malayan Archipelago*. *Int.* 1837. *Ht.* 6 to 18 in. *Species* cultivated, about 18; varieties several. *Flowers*, yellow, white, purple, brown, red, rose, violet; more or less fragrant; spring & sum. *Compost*, sphagnum moss, charcoal, & broken potsherds. *Position*, hanging baskets or attached to pieces of wood, or in pots filled to rim with charcoal & potsherds & remainder living sphagnum moss. *Grow* near glass always. *Pot*, or fix to blocks in Jan. or Feb. *Water* plants grown on blocks copiously twice daily, Mar. to Sept.; once daily afterwards; those in baskets copiously, Ap. to Sept.; moderately afterwards. *Shade* from mid-day. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 60° to 70°. *Avoid* allowing moisture to fall on leaves in winter. Moist atmosphere essential. *Growing period*, Mar. to Nov.; *resting period*, Nov. to Mar. *Propagate* by offsets any time.

Sachalin Knot-weed (*Polygonum sachalinense*)—see Polygonum.

Sacred Bean (*Nelumbium speciosum*)—see Nelumbium.

Sacred Fig Tree (*Ficus religiosa*)—see Ficus.

Sacred Silver Fir (*Picea religiosa*)—see Picea.

Sad-coloured Sword-lily (*Gladiolus tristis*)—see Gladiolus.

Sad-flowered Iris (*Iris Susiana*)—see Iris.

Saddle-tree (*Liriodendron tulipiferum*)—see Liriodendron.

Sadleria.—*Ord.* Filices. Stove tree fern. *Nat. Sandwich Islands*. *Int.* 1877. *Ht.* 5 to 8 ft. Fronds, feather-shaped. *Species* cultivated, 1. *Compost*, two-thirds peat & loam, & abundance of sand. *Position*, large pots or tubs, well drained, in shady stove or warm conservatory. *Repot*, Feb. or Mar. *Water* moderately, Oct. to Mar.; freely afterwards. *Syringe* trunks daily, Mar. to Sept. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Shade* in sum. essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat in shallow well drained pans; cover with sheet of glass, & keep moist in shady position in temp. 75° to 85°.

Saffron Crocus (*Crocus sativus*)—see Crocus.

Saffron-flowered Saxifrage (*Saxifraga mutata*)—see Saxifraga.

Saffron Thistle (*Carthamus tinctorius*)—see Carthamus.

Sage (*Salvia officinalis*)—see Salvia.

Sagina (Pearl-weed, Pearl-wort).—*Ord.* Caryophyllaceæ. Hardy perennial herb. Orn. foliage & flowering; evergreen. *Nat. Corsica*. *Int.* 1826. *Ht.* 2 in. *Species* cultivated, 1; variety 1. *Flowers*, white; July to Aug. *Leaves*, narrow, green or golden yellow. *Stems*, creeping. *S. glabra* used as a substitute for grass for forming lawns on sandy soils. *S. g. aurea*, golden yellow foliage, used for carpet bedding. **CULTURE OF S. GLABRA ON LAWNS**: *Soil*, sandy. *Position*, sunny. *Plant* small tufts 3 in. apart each way in Mar. or Ap. Keep free from weeds & roll frequently. Requires frequent renewal. **CULTURE OF S. g. AUREA**: *Soil*, ordinary. *Position*, sunny beds, borders, or rockeries. *Plant* small tufts in Mar., 2 in. apart, in lines, designs, or masses. *Propagate* by seeds sown in sandy soil in sunny position outdoors in Mar.; by division in Mar. or Ap.

Sagittaria (Arrow-head).—*Ord.* Alismaceæ. Hardy perennial aquatic herbs. *Nat.* Europe (Britain), N. America. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, white; June & July. *Compost*, two parts strong rich loam, one part well decayed manure. *Position*, open sunny ponds or lakes. *Depth* of water, 2 to 3 ft. *Plant*, Mar. to Oct. *Methods of planting*: (1) Place plant in small wicker basket containing above compost, & lower to the bottom of pond or lake. (2) Inclose roots with soil & large stone in piece of canvas or matting, tie securely & immerse as above. (3) Place large hillock or mound of compost at bottom of pond when dry & plant roots in centre, afterwards submerging with water. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in rich soil in shallow basket & immersed in ponds or lakes in spring; division of plants, Mar. or Ap.

Sago Palm (*Cycas circinalis*)—see *Cycas*.

Sainfoin (*Onobrychis sativa*).—see *Onobrychis*.

St. Bernard's Lily (*Anthericum liliago*)—see *Anthericum*.

St. Bruno's Lily (*Anthericum liliastrum*)—see *Anthericum*.

St. Dabeoc's Heath (*Menziesia polifolia*)—see *Menziesia*.

St. Helena Fleabane (*Conyza rugosa*)—see *Conyza*.

St. James's Cross Lily (*Amaryllis formosissima*)—see *Amaryllis*.

St. James's Flower (*Lotus Jacobæus*)—see *Lotus*.

St. John's-Wort (*Hypericum calycinum*)—see *Hypericum*.

St. Joseph of Arimathea's Thorn (*Cratægus oxyacantha præcox*)—see *Cratægus*.

St. Julian's Cherry (*Cerasus juliana*)—see *Cerasus*.

St. Patrick's Cabbage (*Saxifraga umbrosa*)—see *Saxifraga*.

St. Vincent's Rocks Stonecrop (*Sedum rupestre*)—see *Sedum*.

Salad Burnet (*Potterium sanguisorba*)—see *Potterium*.

Salal-bush (*Gaultheria shallon*)—see *Gaultheria*.

Salep Orchid (*Orchis mascula*)—see *Orchis*.

Salix (Willow, Sallow, Osier, Withy).—*Ord.* Salicinææ. Hardy deciduous & evergreen trees and shrubs. *Orn. folia* &c. *Nat.* Britain, Europe, N. America, Levant. *Ht.* 6 in. to 40 ft. *Species* cultivated, 2 evergreen; 200 deciduous. *Flowers*, borne in catkins, spring. *Bark*, yellow, purple, red, whitish, or orange coloured. *Shoots* more or less drooping. *Soil*, ordinary heavy or moderately heavy; light soils not suitable. *Position*, damp, near margins of ponds, etc., for tall species; moist rockeries for creeping species—*S. herbacea*, *S. lanata*, *S. serpyllifolia*, *S. retusa*, *S. reticulata*, etc. *Plant*, Oct. to Mar. *Prune*, Nov. to Feb. *Propagate* by cuttings of shoots or stems of any age or size, inserted in moist soil, Oct. to Mar.; choice kinds by budding on the Goat Willow (*S. caprea*) in July, bandaging the bud with damp moss, or by grafting on a similar stock in Mar.

Sallow (*Salix caprea* & *S. cinerea*)—see *Salix*.

Salmon-berry (*Rubus spectabilis* & *R. nutkanus*)—see *Rubus*.

Salsafy (*Tragopogon porrifolius*)—see *Tragopogon*.

Salvia (Sage, Clary).—*Ord.* Labiatæ. Greenhouse & hardy annuals & herbaceous perennials & evergreen shrubs. *Nat.* Common Sage & Clary, S. Europe; other species, chiefly Mexico, N. America, Cape of Good Hope, Central America, India, West Indies, Britain. *Int.* Common Sage, 1597; Clary, 1562. *Ht.* 6 in. to 4 ft. *Species* cultivated, about 150. *Flowers*, blue, purple, violet, scarlet, rose, crimson, yellow; May to Dec. **CULTURE OF STOVE ANNUAL SPECIES**: *Compost*, equal parts leaf-mould, decayed manure, loam, & sand. *Sow* seeds $\frac{1}{8}$ in. deep in shallow pans or well drained pots in temp. 65° in Feb. or Mar. *Transplant* seedlings when three leaves form, place 6 in a 4½ in. pot. *Water* freely. *Shade* from sun. *Apply* weak stimulants when in flower. *Temp.* 65° to 75°. **CULTURE OF HARDY ANNUAL SPECIES** (*S. horminum*, etc.): *Soil*, ordinary rich. *Position*, sunny borders. *Sow* seeds $\frac{1}{2}$ in. deep in Ap. where required to flower, & thin to 4 or 6 in. apart when 2 in. high.

CULTURE OF GREENHOUSE EVERGREEN SPECIES (*S. Bethelli*, *S. fulgens*, *S. gesneriflora*, *S. patens*, etc.): *Compost*, equal parts loam & decayed manure, little sand. *Position*, greenhouse, Sept. to June; cold frame, June to Sept. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* stimulants occasionally a month after repotting until flowers expand, then cease. *Temp.*, Sept. to Mar., 45° to 55°; Mar. to June, 55° to 65°. *Cut* down shoots to within 3 in. of their base after flowering. *Young plants*: Insert cuttings 3 in. long of young shoots in light sandy soil in temp. 65° in Feb. or Mar. When rooted, place singly in 3½ in. pots. *Nip* off point of main shoots, also of succeeding shoots when 3 in. long. *Shift* into 5 or 6 in. pots when former pots are filled with roots. *Water* freely. *Apply* stimulants occasionally. Place in cold frame, June to Sept. **CULTURE OF GREENHOUSE HERBACEOUS SPECIES** (*S. coccinea*, *S. Grahani*, *S. rutilans*, etc.): Same as advised for evergreen species. **OUTDOOR CULTURE OF S. PATENS**, *S. SPLENDENS*, *S. GESNERIFLORA*, *S. RUTILANS*, *S. FULGENS*: *Soil*, rich ordinary. *Position*, sunny sheltered beds or borders. *Plant*, June. *Lift* in Sept., place in pots to flower in greenhouse in autn. *Water* freely in dry weather. *Apply* stimulants once a week. **CULTURE OF HARDY HERBACEOUS SPECIES** (*S. pratensis*, *S. argentea*, *S. candelabrum*, etc.): *Soil*, ordinary rich. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Mulch* annually with decayed manure in Mar. *Cut* down stems close to ground in Oct. *Lift*, divide, & replant every third year. **CULTURE OF CLARY** (*S. sclarea*): Hardy biennial. Leaves used for flavouring soups. Pretty border plant also. *Soil*, ordinary. *Position*, sunny. *Sow* seeds 1 in. deep in drills 18 in. apart in Ap. *Thin* seedlings when 2 in. high to 12 in. apart in row. *Gather* leaves for use following year. **CULTURE OF SAGE** (*S. officinalis*): *Soil*, ordinary rich, light, dryish. *Position*, sunny. *Plant*, Mar. or Ap., 12 in. apart in rows 18 in. asunder. *Nip* off points of shoots first year to induce bushy growth. *Water* freely in dry weather first year after planting. *Renew* plantation every four years. *Propagate* greenhouse herbaceous and evergreen species by cuttings 2 to 3 in. long of young shoots inserted in sandy soil in temp. 65° in spring; sage by seeds sown ¼ in. deep in light soil in temp. 55° to 65° in Mar., transplanting seedlings outdoors in May or June, also by slips, i.e., young shoots pulled off the old plants in Ap., & inserted in a shady border or under a hand-light, or in a cold frame, & kept moist until rooted.

Salisburia (Maidenhair-tree, Ginkgo-tree).—*Ord.* Coniferæ. Hardy deciduous coniferous tree. *Orn. foliage*. *Nat.* Northern China. *Int.* 1754. *Ht.* 60 to 80 ft. *Species* cultivated, 1; varieties, 3. *Flowers*, male & female borne on separate trees; spring. *Fruit*, small, globular; edible. *Leaves*, fan-shaped; green & variegated. *Soil*, ordinary well drained. *Position*, sheltered shrubberies or lawns *S. of England*, against south or west walls of other parts. *Plant*, Oct. to Feb. *Propagate* by seeds sown 1 in. deep in pans of light sandy soil in cold frame, Oct. or Mar.

Salpiglossis (Scalloped Tube-tongue).—*Ord.* Solanaceæ. Half-hardy annual. *Nat.* Chili. *Int.* 1820. *Ht.* 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, variously coloured; June to Sept. **OUTDOOR CULTURE**: *Soil*, sandy loam or good ordinary rich. *Position*, sunny beds or borders. *Sow* seeds in well drained pots, pans, or shallow boxes filled with compost of equal parts loam, leaf-mould & sand placed in temp. of 65° to 75°, Feb. or Mar. *Cover* seeds with thin sprinkling of fine soil. *Transplant* seedlings when three leaves have formed ½ in. apart in well drained pots or shallow boxes of above compost. *Keep* in temp. of 55° to 65° till May, then place in cold frame to harden, & plant out in June. *Water* freely in dry weather. *Apply* weak stimulants occasionally to plants in flower. **INDOOR CULTURE**: *Compost*: two parts sandy loam, half a part each of leaf-mould & decayed cow manure & silver sand. *Sow* seeds as advised above for sum. flowering; in Aug. or Sept. for spring flowering. *Transplant* seedlings when three leaves have formed, 3 in a 2½ in. pot, & place on shelf close to glass in temp. 55° to

65°. When well rooted in small pots, shift into 5-in. size. *Water* moderately until plants are well established. *Apply* stimulants— $\frac{1}{4}$ oz. of kainit, superphosphate of lime, & nitrate of soda to 2 galls. of water—once a week during flowering period. *Nip* off points of main shoots when 6 in. high to induce bushy growth. *Place* in cool greenhouse or window whilst in bloom.

Sambucus (Elder, Dane-wort).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs & herbaceous perennials. *Nat.* Common Elder (*S. nigrum*) & herbaceous elder (*S. ebulus*), Britain; *S. racemosa*, S. Europe. *Int.* (*S. racemosa*), 1596. *Ht.* 2 to 15 ft. *Species* cultivated, 1 hardy herbaceous; 2 shrubs; varieties many. *Flowers*, white, pink, green, yellow; May to July. *Berries*, black or scarlet. *Leaves*, feather-shaped, green, golden or white. *CULTURE OF HERBACEOUS SPECIES* (*S. ebulus*): *Soil*, ordinary. *Position*, dry banks or shrubberies in sun or shade. *Plant*, Oct. to Feb. *Cut* down stems in Nov. *CULTURE OF SHRUBBY SPECIES* (*S. nigra*, *S. racemosa*, & silver & golden-leaved varieties): *Soil*, ordinary. *Position*, open shrubbery, hedges, rows for common species; moist sunny borders for variegated kinds. *Plant*, Oct. to Mar. *Prune* into shape, Nov. to Jan. *Nip* off points of young shoots of golden & silver elders during sum. to insure dwarf growth & rich colouring in foliage. *Propagate* herbaceous species by division, Oct. to Mar.; shrubby species by cuttings of branches or shoots inserted in moist soil in any position outdoors, Oct. to Mar.

Sambul Plant (*Ferula sambul*)—see *Ferula*.

Samolus (Tasmanian Water Pimpernel).—*Ord.* Primulaceæ. Hardy herbaceous perennial. *Nat.* Australia. *Int.* 1800. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, pink; Aug. *Soil*, sandy peat. *Position*, moist bog or rockery. *Plant*, Mar. or Ap. *Water* freely in dry weather in sum. *Propagate* by division of the roots in spring.

Samphire (*Crithmum maritimum*)—see *Crithmum*.

Sanchezia.—*Ord.* Acanthaceæ. Stove perennial flowering & orn. foliated herbs. *Nat.* Ecuador, Guayagil. *Int.* 1866. *Ht.* 1 to 3 ft. *Species* cultivated, 2; variety 1. *Flowers*, purple, yellow, crimson; Ap. *Leaves*, large, oval, glaucous green, or striped with white or yellow. *Compost*, two parts peat & loam, one part decayed manure & sand. *Position*, light part of stove in winter; shady part in spring & sum. *Pot*, Mar. *Syringe* twice daily, Ap. to Oct.; once daily afterwards. *Water* freely, Mar. to Oct.; moderately other times. *Apply* weak stimulants occasionally during sum. *Temp.*, Sept. to Mar., 55° to 65°, Mar. to Sept., 75° to 85°. *Propagate* by cuttings of young shoots inserted under bell-glass in fine soil, Mar. to July.

Sandarac Gum-tree (*Thuja articulata*)—see *Thuja*.

Sandersonia.—*Ord.* Liliaceæ. Stove tuberous-rooted herb. *Nat.* Natal. *Int.* 1852. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, orange; sum. *Compost*, equal parts loam, peat, leaf-mould, decayed manure, & silver sand. *Position*, well drained pots, with shoots trained to roof or trellis. *Pot*, Feb. placing tubers 2 in. deep, one in a 6-in. pot, or several in an 8 or 12-in. pot. *Water* moderately till growth is well advanced, then freely. *After flowering*, gradually withhold water & keep soil quite dry till potting time. *Temp.*, Feb. to Sept., 70° to 85°; Sept. to Feb., 55° to 65°. *Propagate* by seeds inserted singly $\frac{1}{2}$ in. deep in 3-in. pots filled with light soil in temp. 75° in Feb. or Mar.; offsets removed from large tubers at potting time.

Sanders-wood (*Pterocarpus santalinus*)—see *Pterocarpus*.

Sand-hill Rosemary (*Ceratiola ericoides*)—see *Ceratiola*.

Sand House-leek (*Sempervivum arenarium*)—see *Sempervivum*.

Sand Myrtle (*Ledum buxifolium*)—see *Ledum*.

Sand Pear (*Pyrus sinensis*)—see *Pyrus*.

Sand Pink (*Dianthus arenarius*)—see *Dianthus*.

Sand Verbena (*Abronia umbellata*)—see *Abronia*.

Sand-wort (*Arenaria balearica*)—see *Arenaria*.

Sanguinaria (Blood-root, Red Puccoon).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* N. America. *Int.* 1680. *Ht.* 6 in. *Species* cultivated, 1; variety 1. *Flowers*, white; *Ap.* & *May.* *Soil*, sandy loam or peat. *Position*, sunny borders or rockeries. *Plant*, Oct., Nov., Mar. or *Ap.* *Water* freely in dry weather. *Top-dress* annually with decayed cow manure in Feb. or Mar. *Should* be interfered with as little as possible. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in equal parts leaf-mould, peat, & sand in cold frame or cool greenhouse in early autn. or spring, transplanting seedlings outdoors when large enough to handle; by division of roots in Oct. or Mar.

Sanguisorba (Burnet).—*Ord.* Rosaceæ. Hardy perennial herb. *Nat.* Europe (Britain). *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green, purple; *sum.* *Leaves* used for flavouring soups, salads, & wines. *Soil*, ordinary light. *Position*, sunny dryish bed or border. *Plant*, 6 in. apart in rows 8 in. asunder, Feb. *Water* freely in dry weather. *Remove* flower stems directly they appear. *Roots* to be lifted & replanted annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in drills 8 in. apart, Mar., *Ap.* or *Sept.*, thinning seedlings when 2 in. high, 6 in. apart.

Sansevieria (Bow-string Hemp, Angola Hemp).—*Hæmodoraceæ.* Stove herbaceous perennials. *Orn.* foliage. *Nat.* Tropical & S. Africa, E. Indies. *Nat.* 1690. *Ht.* 1 to 3 ft. *Species* cultivated, about 4; varieties several. *Flowers*, white, green, yellowish; insignificant. *Leaves*, narrow, ridged, green, long, margined or spotted with white. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, pots in shady part of stove. *Pot*, Feb. to *Ap.* *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* freely in *sum.* *Temp.*, Mar. to *Sept.*, 65° to 75°; *Sept.* to Mar., 55° to 65°. *Propagate* by division of plants, Feb. to *Ap.*

Santolina (Lavender Cotton).—*Ord.* Compositæ. Hardy evergreen shrubby plants. *Nat.* S. Europe. *Int.* 1573. *Ht.* 1 to 2 ft. *Species* cultivated, 2; varieties 3. *Flowers*, yellow; July to *Sept.* *Leaves* & shoots covered with cottony down. *Soil*, ordinary sandy. *Position*, margins of sunny borders or rockeries for *S. incana*; backs of sunny borders or large rockeries for *S. chamæcyparissus* & *S. rosmarinifolia*. *Plant*, *Sept.*, Oct., Mar. or *Ap.* *Distance* apart for forming edging of *S. incana*, 6 in. *Propagate* by cuttings of shoots, 2 to 3 in. long, pulled off with portion of stem attached & inserted in pots of sandy soil in cold frame, *Sept.* or Oct., or in sheltered position outdoors, same time.

Sanvitalia.—*Ord.* Compositæ. Hardy annual. *Nat.* Mexico. *Int.* 1798. *Ht.* 12 in. *Species* cultivated, 1; variety 1. *Flowers*, yellow; single & double; June to *Sept.* *Soil*, ordinary. *Position*, margins of sunny borders or rockeries. *Sow* seeds $\frac{1}{4}$ in. deep in light soil in temp. 55° to 65° in Mar. *Harden* off seedlings in cold frame in *Ap.* & plant outdoors in May; or in lines or patches in open ground end of *Ap.*, thinning seedlings when 1 in. high to 2 or 3 in. apart. *Water* freely in dry weather, & apply weak stimulants occasionally during flowering period.

Sapindus Fir (*Pinus orientalis*)—see *Pinus*.

Saponaria (Soap-wort, Bouncing Bet, Crow Soap, Fuller's Herb, Hedge Pink, Soap wort Gentian).—*Ord.* Caryophyllaceæ. Hardy annuals & perennials. *Nat.* Pyrenees, Calabria, Switzerland, Britain. *Int.* (foreign species) 1596. *Ht.* 3 in. to 3 ft. *Flowers*, rose, red, pink, lilac, white; May to *Sept.* **CULTURE OF ANNUAL SPECIES** (*S. calabrica*): *Soil*, ordinary. *Position*, margins of sunny borders or in beds. *Sow* seeds in lines or patches $\frac{1}{2}$ in. deep in *Ap.* for *sum.* flowering; in *Sept.* for spring flowering. *Thin* seedlings when 1 in. high 2 or 3 in. apart. *Water* freely in dry weather & apply stimulants occasionally. **CULTURE OF PERENNIAL SPECIES**: *Soil*, equal parts sandy loam & peat for *S. caespitosa*; deep rich loam for *S. ocymoides* & *S. officinalis*. *Position*, *S. caespitosa*, sunny sheltered well drained rockeries; sunny rockeries or borders for *S. ocymoides*; large sunny or shady shrubby borders or wild garden for *S. officinalis*. *Plant*, Oct to *Ap.* *Top-dress* annually in Feb. with

decayed manure. *Water* freely in dry weather. *Propagate* by seeds sown in shallow boxes of sandy soil in temp. of 55° to 65° in Mar., hardening seedlings in a cold frame in Ap., & planting out in May or June; or outdoors in Ap., transplanting seedlings in June & July; by cuttings inserted in sandy soil in cold frame, Sept. & Oct.; division of roots, Oct. to Mar.

Sap Pine (*Pinus rigida*)—see *Pinus*.

Sarcocylus.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Malayan Archipelago, Burmah, Australia. *Int.* 1821. *Species* cultivated, 3. *Flowers*, creamy white, mauve, rosy purple; *sum.* *Compost*, living sphagnum moss & clean potsherds. *Position*, teak baskets or pots suspended from the roof. *Pot* in Feb. or Mar. *Water* copiously daily, Ap. to Sept.; moderately afterwards. *Shade* from sun essential. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 85°. *Growing period*, Mar. to Sept.; *resting period*, Sept. to Mar. *Propagate* by division in Feb.

Sardinian Iris (*Iris olbiensis*)—see *Iris*.

Sardinian Nut (*Castanea vesca*)—see *Castanea*.

Sarmienta (Chilian Pitcher-flower).—*Ord.* Gesneraceæ. Greenhouse herbaceous creeper. *Nat.* Chili. *Int.* 1862. *Species* cultivated, 1. *Flowers*, scarlet; May to Sept. *Compost*, soft peat, charcoal, & chopped sphagnum moss. *Position*, teak baskets or pans, suspended from roof, or in pots with shoots growing up stems of dead tree ferns. *Pot* or plant, Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 45° to 55°. *Propagate* by division of plants in Mar.

Sarracenia (Huntsman's Horn, Indian Cup, N. American Pitcher Plant, Side-saddle Flower, Trumpet-leaf).—*Ord.* Sarraceniaceæ. Half-hardy herbaceous perennials. *Nat.* N. America. *Int.* 1752. *Ht.* 6 in. to 2 ft. *Species* cultivated, 8; hybrids several. *Flowers*, white, purple, yellow; June. *Leaves*, tubular, pitcher-shaped, reticulated. *Compost*, equal parts fibry peat & chopped sphagnum moss. *Position*, cool moist corner of greenhouse or fernery, cold frame, or Wardian case in dwelling room. *Pot*, Mar. *Pots* to be two-thirds full of drainage. *Place* pot containing plant inside another pot two sizes larger, & fill space between with sphagnum moss. *Water* freely, Ap. to Oct.; very little in winter. *Syringe* foliage gently daily in sum. *Shade* from bright sun. *Top-dress* in sum. with a little decayed manure. **CULTURE OF S. PURPUREA**: *Compost*, equal parts peat & sphagnum moss. *Position*, fully exposed bog garden or moist rockery. *Plant*, Mar. or Ap. *Keep* surface of soil covered with layer of moss. *Water* freely in sum. *Propagate* all the species & hybrids by division in Mar. or Ap.

Sassafras Oil-plant (*Laurus sassafras*)—see *Laurus*.

Sassafras-tree (*Laurus sassafras*)—see *Laurus*.

Satin-flower (*Lunaria biennis*)—see *Lunaria*.

Satin-leaf (*Heuchera Richardsoni*)—see *Heuchera*.

Satin-wood-tree (*Xanthoxylum caribæum*)—see *Xanthoxylum*.

Satureia (Summer & Winter Savory).—*Ord.* Labiatae. Hardy annual & perennial evergreen herbs. *Nat.* Italy, S. Europe. *Int.* 1552. *Ht.* 18 in. *Species* cultivated, 2. *Flowers*, pink, purple; July. *Aromatic shoots* used for flavouring soups & salads, & for boiling with peas & beans. **CULTURE OF SUMMER SAVORY** (*S. hortensis*): Hardy annual. *Soil*, ordinary. *Position*, sunny. *Sow* seeds $\frac{1}{2}$ in. deep in drills 12 in. apart. *Thin* seedlings when 2 in. high to 6 in. apart. *Water* freely in dry weather. *Pull* plants up when in flower, & dry for winter use. **CULTURE OF WINTER SAVORY** (*S. montana*): Hardy evergreen shrub. *Soil*, ordinary. *Position*, sunny. *Plant*, Mar. or Ap. 12 in. apart in rows 15 in. asunder. *Prune* in closely in Oct., & top-dress with manure. *Renew* plantations every fourth year. *Propagate* by seeds sown as advised for annual species, also by cuttings of young shoots inserted in shady border in Ap., division of roots in Mar.

Satyrion.—*Ord.* Orchidaceæ. Half-hardy terrestrial tuberous-rooted orchid. *Nat. S. Africa. Int.* 1842. *Ht.* 12 in. *Species* cultivated, 1. *Flowers*, orange, crimson; July & Aug. *Compost*, equal parts good turfy loam, sandy peat, leaf-mould, charcoal, & coarse silver sand. *Position*, well drained pots in cold shady frame. *Pot*, Aug. to Nov., placing tubers 1 in. below surface, & 3 to 5 in a 6-in. pot. *Make* compost firm. *Plunge* pots to rims in cinder ashes or cocoanut-fibre refuse. *Water* copiously from time growth begins till foliage fades; then keep nearly dry. *Apply* weak stimulants from Ap. till flowers fade. *Remove* flower spikes when blooms fade. *Repot* every 2 or 3 years. *Protect* from Dec. to Feb. by covering of cocoanut-fibre refuse or cinder ashes. *Propagate* by division of tubers, Aug. to Nov.

Saussurea (Saw-wort).—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* Europe (Britain), Caucasus, Siberia, Nepaul. *Int.* 1816. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 5. *Flowers*, purple, pink; thistle-like; sum. *Soil*, ordinary. *Position*, sunny rockeries for *S. alpina*; sunny borders for *S. pulchella*, *S. pygmaea*, etc. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors, Ap., transplanting seedlings when 3 or 4 leaves have formed.

Savannah-flower (*Echites suberecta*)—see *Echites*.

Savin Oil-plant (*Juniperus sabina*)—see *Juniperus*.

Savin-tree (*Juniperus sabina*)—see *Juniperus*.

Savory (*Satureia hortenii* & *montana*)—see *Satureia*.

Savoy Cabbage (*Brassica oleracea bullata major*)—see *Brassica*.

Saw Palmetto Palm (*Chamærops serrulata*)—see *Chamærops*.

Saxifraga (Breakstone, London Pride, Rockfoil, St. Patrick's Cabbage).—*Ord.* Saxifragaceæ. Hardy annual & perennial herbs. *Nat.* Europe (Britain), Levant, N. America, Japan, India, China. *Ht.* 1 to 18 in. *Species* cultivated, 6 annuals; about 140 perennials. *Flowers*, white, yellow, flesh; May to Sept. **CULTURE OF ANNUAL SPECIES** (*S. cymbalaria*, etc.): *Soil*, ordinary. *Position*, sunny moist rockeries or borders. *Sow* seed in Ap. where plants are required to grow. Usually perpetuates itself from seed. **CULTURE OF PERENNIAL SPECIES**: *Soil* & *Position*, limestone, loam & sand, & sunny rockeries for *S. longifolia*, *crustata*, *Hosti*, *lantoscana*, *Aizoon*, *cotyledon*, *mutata*, *florulenta*, *Kotschy*, *media*, *Rocheliana*, *Spruneri*, *diapsioides*, *Scardica*, *aretoides*, *squarrosa*, *cassia*, *valdensis*, *Vandelli*, *Burseriana*, & *juniperifolia*; limestone, loam & sand, & a damp shady position on the rockery for *S. sancta*; granite chippings, grit, old mortar & sandy loam, & a damp shady rockery for *S. oppositifolia*, *retusa* & *biflora*; loam & peat & a shady rockery for *S. hirculus* & *diversifolius*; ordinary soil & sunny borders or rockeries for *S. muscoides*, *Camposi*, *trifurcata*, *pedemontana*, & *Reuteriana*; sandy loam & a damp shady rockery for *S. Maweana*; ordinary soil & sunny or shady borders for *S. umbrosa* & *crucifolia*; sandy loam & sunny border; for *S. virginica* & *Mertensiana*; ordinary soil & damp shady borders for *S. aconitifolia* & *ranunculifolia*; peat & a damp shady border or margin of pond for *S. peltata*; ordinary soil & a damp shady border for *S. granulata* fl. pl.; light sandy loam & a damp border for *S. tricuspidata*, *aspera*, & *aizoides*. *Plant*, Feb. to May. *Mulch* surface of soil with cocoanut-fibre refuse in dry seasons. **POT CULTURE OF S. COTYLEDON PYRAMIDALIS**: *Compost*, two parts turfy loam & one part of equal proportions of old mortar, decayed cow manure, & sand. *Place* a single offset in a 2½-in. pot in sum., & when latter is filled with roots transfer to a 5-in. size. *Grow* plants in a cold frame until Mar., then transfer to greenhouse to flower. *Water* moderately in sum.; give little at other times. *Apply* weak stimulants occasionally during flowering period. *After flowering* cut off stems, & when offsets are large enough repot as above advised. **POT CULTURE OF S. SARMENTOSA** (*Wandering Jew*): *Compost*, equal parts leaf-mould, loam, decayed cow manure, & sand. *Position*, pots or baskets suspended in sunny windows or cool greenhouses. *Pot*, Mar. *Water* freely, Mar. to Oct.; moderately afterwards. **GENERAL REMARKS**: All the

species referred to for outdoor culture may be grown in pots in a cold frame or greenhouse; admit abundance of air, and avoid over-watering. Compost similar to that advised for outdoors. Propagate annual species by seeds; others by offsets in spring; division in Mar.

Saxifrage Catfishly (*Silene saxifraga*)—see *Silene*.

Scabiosa (Scabious, Pincushion Flower, Egyptian Rose, Mournful Widow, Sweet Scabious).—*Ord.* Dipsacæ. Hardy biennial & perennial herbs. *Nat.* Europe (Britain), Caucasus. *Ht.* 1 to 5 ft. *Species* cultivated, 1 biennial; 8 perennials. *Flowers*, lilac, rose, crimson, blue, purple, white; May to Sept. **CULTURE OF BIENNIAL SPECIES** (*S. atropurpurea*): *Soil*, good rich ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{4}$ in. deep in light sandy soil in temp. of 60° to 70° in Feb. or Mar., & plant out in May to insure plants flowering same year, or outdoors in June or July, transplanting seedlings when 1 in. high, 3 in. apart; or warm sunny border, transplanting again following Mar. to flowering position. *In* cold districts lift the seedlings in Aug., & place in small pots; winter in cold frame & plant out in Ap. **CULTURE OF PERENNIAL SPECIES**: *Soil*, ordinary deep rich. *Position*, sunny well drained borders for *S. caucasica*; sunny rockeries for *S. grammifolia*; ordinary borders for *S. columbaria*, etc. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* annually in Feb. or Mar. with decayed manure. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by division of roots, Oct. or Mar.

Scale Fern (*Ceterach officinarum*)—see *Ceterach*.

Scallion (*Allium ascalonicum majus*)—see *Allium*.

Scaly Fern (*Ceterach officinarum*)—see *Ceterach*.

Scaly Rhododendron (*Rhododendron lepidotum*)—see *Rhododendron*.

Scaly Spleenwort (*Ceterach officinarum*)—see *Ceterach*.

Scarborough Lily (*Vallota purpurea*)—see *Vallota*.

Scarlet-barked Strawberry-tree (*Arbutus Unedo Croomi*)—see *Arbutus*.

Scarlet Dahlia (*Dahlia coccinea*)—see *Dahlia*.

Scarlet-flowered Avena (*Geum coccineum*)—see *Geum*.

Scarlet-flowered Bindweed (*Ipomæa coccinea*)—see *Ipomæa*.

Scarlet-flowered Clematis (*Clematis coccinea*)—see *Clematis*.

Scarlet-flowered Larkspur (*Delphinium puniceum*)—see *Delphinium*.

Scarlet-flowered Leadwort (*Plumbago coccinea*)—see *Plumbago*.

Scarlet-flowered Musk (*Mimulus cardinalis*)—see *Mimulus*.

Scarlet-flowered Orchid (*Sophranitis grandiflora* & *Lælia harpophylla*)—see *Sophranitis* & *Lælia*.

Scarlet-flowered Pentstemon (*Pentstemon puniceus*)—see *Pentstemon*.

Scarlet-flowered Sage (*Salvia coccinea* & *S. splendens*)—see *Salvia*.

Scarlet-flowered Skull-cap (*Scutellaria mocciniana*)—see *Scutellaria*.

Scarlet Fritillary (*Fritillaria recurva*)—see *Fritillaria*.

Scarlet-fruited Staff-tree (*Celastrus bullatus*)—see *Celastrus*.

Scarlet-fruited Thorn (*Cratægus coccinea*)—see *Cratægus*.

Scarlet Fuchsia (*Fuchsia coccinea*)—see *Fuchsia*.

Scarlet Hawthorn (*Cratægus oxyacantha coccinea*)—see *Cratægus*.

Scarlet Lobelia (*Lobelia cardinalis*)—see *Lobelia*.

Scarlet Lychnis (*Lychnis chalconica*)—see *Lychnis*.

Scarlet Mallow (*Pavonia coccinea*)—see *Pavonia*.

Scarlet Martagon Lily (*Lilium chalconicum*)—see *Lilium*.

Scarlet Mexican Sage (*Salvia fulgens*)—see *Salvia*.

Scarlet Mexican Thistle (*Oniscus conspiciua*)—see *Oniscus*.

Scarlet Mitre-pod (*Mitraria coccinea*)—see *Mitraria*.
Scarlet Monkey-flower (*Mimulus cardinalis*)—see *Mimulus*.
Scarlet Oak (*Quercus coccinea*)—see *Quercus*.
Scarlet Runner Bean (*Phaseolus multiflorus coccineus*)—see *Phaseolus*.
Scarlet-striped Lily (*Lilium auratum rubro-vittatum*)—see *Lilium*.
Scarlet Tassel-flower (*Cacalia coccinea*)—see *Cacalia*.
Scarlet Wind-flower (*Anemone fulgens*)—see *Anemone*.
Scarlet Wound-wort (*Stachys coccinea*)—see *Stachys*.
Scented Crocus (*Crocus odoratus*)—see *Crocus*.
Scented Fern (*Lastrea oreopteris*)—see *Lastrea*.
Scented Polypody (*Polypodium pustulatum*)—see *Polypodium*.
Scherzer's Flamingo Plant (*Anthurium Scherzerianum*)—see *Anthurium*.

Schismatoglottis.—*Ord.* Aroidæ. Stove perennial herbs. Orn. foliage. *Nat.* Borneo, New Guinea, Java, Siam. *Int.* 1862. *Ht.* 6 to 12 in. *Species* cultivated, about 9; varieties several. *Flowers*, insignificant. *Leaves*, oblong or heart-shaped, green or striped with silver-grey, purple or yellow. *Compost*, equal parts sandy loam, fibrous peat, leaf-mould, & silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Sprinkle* daily, Ap. to Sept. *Apply* stimulants occasionally during sum. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 75° to 85°. *Propagate* by division, Feb. or Mar.

Schizæa (Comb or Rush Fern).—*Ord.* Filices. Stove & greenhouse evergreen ferns. *Nat.* Australia, N. America, W. Indies, Malayan Archipelago, Trinidad, S. America, Malacca. *Int.* 1816. *Ht.* 3 to 12 in. *Species* cultivated, 3 greenhouse; 6 stove. *Fronds*, fan shaped. *Compost*, equal parts leaf-mould, peat, & silver sand. *Position*, well drained pots in Wardian cases or in moist shady part of stove or greenhouse. *Pot* or plant, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Sprinkle* fronds daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 55° to 55°; Sept. to Mar., 45° to 55°, for greenhouse species; Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65° for stove species. *Propagate* by division of roots in Feb. or Mar.

Schizandra.—*Ord.* Magnoliaceæ. Hardy evergreen climbing shrubs. *Nat.* China & N. America. *Int.* 1306. *Ht.* 20 ft. *Species* cultivated, 2. *Flowers*, rose-scarlet; sum. *Leaves*, large & handsome. *Berries*, scarlet. *Soil*, loam & peat. *Position*, sunny walls or arbours. *Plant*, Sept. & Oct. or Ap. *Prune* straggly shoots, Ap. *Propagate* by cuttings of firm shoots inserted in sandy peat under bell-glass in cold frame, July to Oct.

Schizanthus (Butterfly or Fringe Flower).—*Ord.* Solanaceæ. Half-hardy annual herbs. *Nat.* Chili. *Int.* 1822. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, white, yellow, lilac, purple, violet; Mar. to Nov. **OUTDOOR CULTURE**: *Soil*, good ordinary rich. *Position*, sunny beds or borders. *Sow* seeds thinly in pots, pans, or boxes filled with light soil, & place in temp. 65° to 75° in Feb. or Mar. *Cover* slightly with fine mould. *Transplant* seedlings when 1 in. high, 4 in a 3-in. pot, harden off in frame, & plant out in May. *Sow* also similarly in Aug., transplant 3 in a 3-in. pot, & place on shelf in light airy greenhouse until following May, then plant out. *Sow* likewise outdoors end of Ap. where required to grow. **POT CULTURE**: *Compost*, one part loam, half a part each of decayed manure & leaf-mould, little sand. *Sow* seeds thinly in above compost in cool greenhouse or frame in Aug. *Transplant* seedlings singly in 3-in. pots, & grow on shelf in greenhouse (temp. 45° to 55°) until Jan., then transfer to 6-in. pots, & grow in light position. *Water* moderately in winter; freely other times. *Apply* weak stimulants occasionally whilst flowering. *Support* plants with stakes. For sum. flowering, sow seeds in

temp. 55° to 65° in Feb. or Mar., transplanting when 1 in. high to 3-in. pots, then into 5-in. pots.

Schizopetalon.—*Ord.* Cruciferae. Half-hardy annual. *Nat.* Chili. *Int.* 1821. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white, almond-scented; May to Aug. *Sow* seeds in light warm rich soil in open border, Ap. or May. *Cover* seeds lightly with fine soil. *Thin* seedlings when 1 to 2 in. high to 3 or 4 in. apart. *Support* plants when 6 to 12 in. high with small bushy twigs. *Water* freely in dry weather. *Sow* also thinly in well drained pans filled with compost of loam, peat, & sand placed in temp. of 55° to 65°, Feb. or Ap.; transplanting seedlings 3 or 4 in 3-in. pots filled with above compost; harden off in cold frame & plant out in May.

Schizophragma (Climbing Hydrangea).—*Ord.* Saxifragaceae. Hardy evergreen self-clinging climbing shrub. Flowering. *Nat.* Japan. *Int.* 1879. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, pink; autn. *Soil*, ordinary. *Position*, sunny wall. *Plant*, Oct. or Ap. *Prune* straggly shoots into shape, Ap. *Propagate* by cuttings inserted in sand under a bell-glass in temp. 55° in spring.

Schizostylis (Caffre Lily, Crimson Flag).—*Ord.* Iridaceae. Hardy bulbous or rhizomatous rooted perennial. *Nat.* Kaffraria. *Int.* 1864. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, crimson; Oct. & Nov. **OUTDOOR CULTURE:** *Soil*, moist loamy. *Position*, warm sunny border. *Plant*, Oct. to Mar. *Protect* in severe weather by covering of dry litter. *Water* freely in dry weather in sum. & apply stimulants occasionally. **POT CULTURE:** *Compost*, two parts loam, one part decayed manure, little sand. *Pot*, Nov. to Mar. *Position*, cold frame, Dec. to Ap.; plunged to the rim of pots in sunny border, Ap. to Sept.; cold greenhouse, Sept. to Dec. *Water* copiously sum.; moderately other times. *Apply* stimulants occasionally in sum. *Repot* annually. *Propagate* by division of rhizomes or roots in Mar. or Ap.

Schomburgkia.—Stove epiphytal orchid. *Nat.* Trop. America. *Int.* 1834. *Ht.* 3 ft. *Species* cultivated, 11. *Flowers*, white, purple, yellow, pink, lilac, brown, carmine; Aug. to Mar. *Compost*, sphagnum moss & fibrous peat. *Position* on blocks suspended from roof or in well drained pots or pans. *Pot* or reblock, Feb. or Mar. *Water* freely during growing period. *Keep* dry after growth has completed until flowers appear. *Shade* from sun. *Moist* atmosphere essential during growing period. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs at potting time.

Sciadopitys (Parasol Fir Tree, Umbrella Pine).—*Ord.* Coniferae. Hardy evergreen conifer. *Nat.* Japan. *Int.* 1861. *Ht.* 80 to 120 ft. *Species* cultivated, 1; variety 1. *Leaves*, long, tapering, borne in tufts at the end of shoots, parasol-like; green or variegated with pale yellow. *Soil*, rich moist loam. *Position*, sheltered from piercing winds. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by imported seeds sown $\frac{1}{2}$ in. deep in pots filled with moist sandy loam, & placed in cold frame or greenhouse, transplanting seedlings outdoors following spring; or $\frac{1}{2}$ in. deep outdoors in Ap. in moist bed of sandy loam, transplanting seedlings next year.

Scian Mastich-tree (*Pistacia lentiscus*)—see *Pistacia*.

Sciatica Cress (*Iberis amara*)—see *Iberis*.

Scilla (Squill, Sea Onion, Blue Bell, Winter Hyacinth, Harebell, Bell Bottle, Crow Bells, & Cape Hyacinth).—*Ord.* Liliaceae. Greenhouse & hardy bulbous plants. *Nat.* Britain, S. Europe, Levant, Algeria, S. Africa. *Ht.* 3 to 12 in. *Species* cultivated, 35 greenhouse, 37 hardy. *Flowers*, blue, rose or white; spring & autn. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part decayed cow manure & sand. *Position*, well drained pots in light cool greenhouse. *Pot*, Aug. to Dec. singly or in threes in 5-in. pots. *Water* freely when growth begins; keep dry after flowering ceases & leaves begin to decay. *Temp.*, Oct. to Mar., 40° to 60°; Mar. to Oct., 55° to 65°. *Stand* pots in cold sunny frame, June to Sept. **CULTURE OF**

HARDY SPECIES (*S. sibirica*, *S. peruviana*, *S. bifolia*, *S. nutans*, etc.): *Outdoors* Soil, deep sandy loam. *Position*, sunny beds, borders or rockeries. *Plant*, Aug. to Nov. in lines or masses. *Depth for planting*: Small bulbs 2 in. deep & 2 in. apart; large bulbs 4 in. deep & 3 to 4 in. apart. *Mulch* with decayed manure, Nov. *Light*, divide, & replant every third year. *Pot Culture*: *Compost*, two parts sandy loam, one part leaf-mould or well decayed cow manure & one part river sand. *Pot*, Aug. to Nov., placing small bulbs, 1 in. apart, in a 5 in. pot; or 3 to 5 large-sized bulbs 1 in. deep in similar pots. *Position*, under layer of cinder ashes from time of potting till growth commences, then in cold frame, cool greenhouse or window till past flowering, afterwards in sunny spot outdoors. *Water* moderately from time growth commences till foliage fades, then keep dry. *Repot* annually. *Apply* weak stimulants once or twice during flowering period. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light sandy soil in boxes or cold frame, or outdoors in Sept.; offsets from old bulbs removed when lifting & planted as advised for full-sized bulbs. Seedlings flower when 3 to 4 years old.

Scirpus (Club Grass or Rush).—*Ord.* Cyperaceæ. Hardy perennial marsh or water plants. *Nat.* Europe (Britain). *Ht.* 1 to 8 ft. *Species* cultivated, about 4. *Inflorescence*, brown, tufted; *sum.* *Leaves*, long, grass-like. *Soil*, ordinary. *Position*, margins of lakes, streams, & ponds. *Plant*, Oct. to Ap. *Propagate* by division, Oct. to Ap.

Scoke (*Phytolacca decandra*)—see *Phytolacca*.

Scolopendrium (Hart's-tongue Fern).—*Ord.* Filices. Hardy evergreen fern. *Nat.* Europe (Britain). *Ht.* 3 to 18 in. *Species* cultivated, 1; varieties very numerous. *Fronde*s, strap-shaped, crested, or contorted. *OUTDOOR CULTURE*: *Soil*, one part each of fibrous peat & loam, & one of sand, broken oyster shells, & limestone or mortar rubbish. *Position*, shady borders, rockeries, or banks. *Plant*, Ap. *Water*, copiously in dry weather. *INDOOR CULTURE*: *Compost*, as above. *Position*, pots in cold frame, greenhouse or dwelling room. *Shade* from sun essential. *Put*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.

Scolymus (Spanish Oyster Plant, Golden Thistle).—*Ord.* Compositæ. Hardy annual, biennial, & perennial herbs. *Nat.* S. Europe. *Int.* 1630. *Ht.* 3 ft. *Species* cultivated, 3. *Flowers*, yellow; May to Aug. *Soil*, ordinary. *Position*, sunny borders. *Plant* perennial species (*S. grandiflorus*), Oct. to Ap. *Sow* seeds of annual species (*S. maculatus*) & of biennial species (*S. hispanicus*) $\frac{1}{2}$ in. deep where required to grow in Mar. or Ap. *Thin* seedlings to 8 or 12 in. apart when 2 in. high. *Propagate* perennial species by seeds sown as above, or by division of roots in Ap.

Scorpion Grass (*Myosotis dissitiflora*)—see *Myosotis*.

Scorpion Iris (*Iris alata*)—see *Iris*.

Scorpion-plant (*Renanthera arachnites* & *Genista scorpius*)—see *Renanthera* & *Genista*.

Scorpion Senna (*Coronilla Emerus*)—see *Coronilla*.

Scorzonera (*Scorzonera hispanica*)—see *Scorzonera*.

Scorzonera (Vipers' Grass).—*Ord.* Compositæ. Hardy herbaceous perennial with edible roots. *Nat.* S. Europe. *Int.* 1576. *Ht.* 2 to 3 ft. *Species* cultivated, 1. *Flowers*, yellow; June to Sept. *Roots*, carrot-shaped, white with dark skin, sweet-flavoured. *Soil*, ordinary fine, rich, deeply trenched, free from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills $\frac{1}{2}$ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., twist off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures* for: 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. of guano

mixed per square rod (30½ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Scotch Crocus (*Crocus biflorus*)—see *Crocus*.

Scotch Elm (*Ulmus montana*)—see *Ulmus*.

Scotch Fir (*Pinus sylvestris*)—see *Pinus*.

Scotch Heather (*Erica cinerea*)—see *Erica*.

Scotch Kale (*Brassica oleracea sabellica*)—see *Brassica*.

Scotch Laburnum (*Cytisus alpinus*)—see *Cytisus*.

Scotch Lilac (*Syringa vulgaris violacea*)—see *Syringa*.

Scotch Primrose (*Primula scotia*)—see *Primula*.

Scotch Rose (*Rosa spinosissima*)—see *Rosa*.

Scotch Thistle (*Onopordon acanthium*)—see *Onopordon*.

Screw Pine (*Pandanus odoratissimus*)—see *Pandanus*.

Scrofula-leaf (*Goodyera pubescens*)—see *Goodyera*.

Scrophularia.—*Ord.* Scrophulariaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia Minor. *Ht.* 6 in. to 3 ft. *Species* cultivated, 3. *Flowers*, golden yellow, green, purple; Mar. to Aug. *Leaves*, green or variegated. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. to Mar. Remove flowers from variegated kind directly they appear. *Propagate* by cuttings inserted in sandy soil under hand-light in autumn; division in Mar. or Ap.

Scrub Oak (*Quercus Catesbæi*)—see *Quercus*.

Scutellaria (Helmet Flower, Skull Cap).—*Ord.* Scrophulariaceæ. Stove perennials & shrubs & hardy herbaceous perennials. *Nat.* Brazil, Mexico, S. Europe, N. America, Japan, Persia, Britain. *Int.* (foreign species) 1683. *Ht.* 3 to 18 in. *Species* cultivated, 11 stove; 22 hardy. *Flowers*, pink yellow, blue, scarlet, purple; sum. & winter. *CULTURE OF STOVE SPECIES* (*S. mocciniana*, etc.): *Compost*, two parts loam, one part of equal proportions of leaf-mould, decayed manure, & sand. *Position*, light part of stove, Sept. to June; sunny cold frame remainder of year. *Pot*, Feb. or Mar. *Prune* shoots directly after flowering (Feb.) to within 3 in. of base. *Good drainage* essential. *Nip* off points of main shoots when 3 in. long, also of lateral shoots when of similar length to induce bushy growth. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Apply* stimulants once a week, May to Dec. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 70° to 80°. *CULTURE OF HARDY SPECIES* (*S. macrantha*, etc.): *Soil*, ordinary. *Position*, open sunny borders or rockeries; moist bogs for *S. minor*. *Plant*, Mar. or Ap. *Lift*, divide, & replant only when overgrown. *Propagate* *S. mocciniana* by cuttings of firm shoots, 2 to 3 in. long, inserted in light sandy soil under bell-glass in temp. 75° to 85° in spring; hardy species by seeds sown outdoors in Ap.; division of roots in Mar. or Ap.

Scuticaria.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Brazil, British Guiana. *Int.* 1834. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, green, yellow, chocolate, white; sum. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans, or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 55°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Propagate* by division of pseudo-bulbs immediately after flowering.

Scyphanthus (Cup Flower).—*Ord.* Loasaceæ. Half-hardy annual climber. *Nat.* Chili. *Int.* 1824. *Ht.* 5 to 8 ft. *Species* cultivated, 1. *Flowers*, golden yellow; Aug. to Oct. *Soil*, light, rich ordinary. *Position*, sunny trellis or wall. *Sow* seeds in light sandy soil in temp. 55° to 65° in

Mar. Transplant seedlings when 1 in. high singly in 3-in. pots, keep in heat until established, then harden in cold frame, & plant out in June.

Sea Buckthorn (*Hippophae rhamnoides*)—see Hippophae.

Sea Bugloss (*Mertensia maritima*)—see Mertensia.

Sea Cabbage (*Crambe maritima*)—see Crambe.

Sea Cole-wort (*Crambe maritima*)—see Crambe.

Sea Cross-wort (*Crucianella maritima*)—see Crucianella.

Sea Eryngo (*Eryngium maritimum*)—see Eryngium.

Seaforthia (Bungalow Palm, Cabbage Palm.—*Ord.* Palmaceæ.
Greenhouse palms. Orn. foliage. *Nat.* Queensland, New South Wales. *Int.* 1822. *Ht.* 30 to 60 ft. *Species* cultivated, 1. *Leaves*, fan-shaped, green. *Compost*, equal parts loam & leaf-mould, half a part silver sand. *Position*, shady part of stove, warm greenhouse, or conservatory; pots or tubs. *Pot.*, Feb. or Mar. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* freely daily, Mar. to Oct. *Shade* from sun. *Top-dress* large plants occasionally with layer of cow manure. *Apply* stimulants occasionally, Ap. to Sept. *Temp.*, Mar. to Oct., 60° to 75°; Oct. to Mar., 55° to 60°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light rich soil in temp. 80° to 90°, Feb., Mar. or Ap.

Sea Gilliflower (*Armeria vulgaris*)—see Armeria.

Sea-green Whitlow-grass (*Draba aizoides*)—see Draba.

Sea Grass (*Armeria maritima*)—see Armeria.

Sea Heath (*Frankenia levis*)—see Frankenia.

Sea Holly (*Eryngium maritimum*)—see Eryngium.

Seakale (*Crambe maritima*).—*Ord.* Cruciferæ. Hardy perennial. *Nat.* Seashores of Britain. *Ht.* 18 in. *Species* cultivated, 1; varieties several. *Flowers*, white; May. *Leaf stalks* edible. *Soil*, rich, deeply trenched ordinary. *Position*, open, sunny. *Plant*, Feb. or Mar. *Distances* apart in the row, 18 in. to 2 ft.; between the rows, 2½ ft. *Top of root* to be 2 in. below surface. *Rub off* all except one shoot at each root in May. *Renew* plantations every four or five years. *Mulch* annually in Nov. with manure. *Cover* crowns with cinder ashes or pots, Nov. to Feb. to blanch stalks for use. *Pots* may be covered with leaves & fresh dung, Dec. to Mar., to ensure early supply of stalks. *Commence* to cut stalks when roots have been planted 2 years. *Forcing*: Lift roots planted two or more years, Nov. to Mar., and place closely together in soil in large pots or boxes provided with covers to exclude light. *Place* in temp. 55° to 65°, & keep moist. *Manures*: Salt, 1 oz. per sq. yard, applied May to Aug.; nitrate of soda, 1 oz. per sq. yard, applied May to Aug.; Peruvian guano, 1½ oz. per sq. yard, applied in May or June. *Propagate* by seeds sown 1 in. deep in rows 12 in. apart in Mar. or Ap. Lift roots following Feb. or Mar., & replant 18 in. to 2 ft. in rows 2½ ft. asunder. Also by cuttings of thong-like roots 1 to 1½ in. in diameter & 4 to 6 in. long, having crowns pared off & lower ends cut slantwise & planted 18 in. to 2 ft. apart in rows 2½ ft. asunder, Feb. or Mar.

Seakale Beet (*Beta brasiliensis* & *B. cicla*)—see Beta.

Sea Lavender (*Statice Limonium*)—see Statice.

Sea Onion (*Scilla maritima*)—see Scilla.

Sea Pink (*Statice armeria* & *Armeria maritima*)—see Statice & Armeria.

Sea-shore Daffodil (*Narcissus calathinus*)—see Narcissus.

Sea-side Alder (*Alnus maritima*)—see Alnus.

Sea-side Heron's-bill (*Erodium maritimum*)—see Erodium.

Sea-side Oak (*Uniola paniculata*)—see Uniola.

Sea-side Pea (*Pisum maritimum*)—see Pisum.

Sea-side Poppy (*Glaucium luteum*)—see Glaucium.

Sea-side Rag-weed (*Cineraria maritima*)—see Cineraria.

Sea-side Rocket (*Cakile maritima*)—see Cakile.

Sea-side Spleenwort (*Asplenium marinum*)—see *Asplenium*.

Sea-side Stock (*Mathiola sinuata*)—see *Mathiola*.

Sea Star (*Aster tripolium*)—see *Aster*.

Sea Starwort (*Aster tripolium*)—see *Aster*.

Seal Flower (*Dielytra spectabilis*)—see *Dielytra*.

Sedum (S. oncrop).—*Ord.* Crassulaceæ. Greenhouse & hardy evergreen & herbaceous perennials, biennials, & annuals. Flowering & orn. foliage. *Nat.* Europe (Britain), Asia, Africa, N. America, Japan, Mexico. *Ht.* 1 to 18 in. *Species* cultivated, about 15 herbaceous perennials; 37 evergreen perennials; 2 annuals. *Flowers*, yellow, white, rose; sum. **CULTURE OF GREENHOUSE SPECIES** (*S. Sieboldi* *S. carneum*, etc.): *Compost*, two parts sandy loam, one part brick rubbish, one part of equal proportions of dried cow dung & sand. *Position*, pots or pans in sunny greenhouse. *Pot.* Feb. to Ap. *Water* freely, Ap. to Oct.; very little afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 45° to 55°. **CULTURE OF HARDY PERENNIAL SPECIES** (*S. telephium*, etc.): *Soil*, ordinary or sandy loam. *Position*, sunny or shady dryish rockeries & borders. *Plant*, Nov. to Ap. *Lift*, divide. & replant triennially. **CULTURE OF ANNUAL SPECIES** (*S. cæruleum*, etc.): *Soil*, ordinary. *Position*, sunny dryish banks, rockeries, or borders. *Sow* seeds thinly in Ap. where required to grow, & lightly cover with fine soil. *Thin* 3 to 6 in. apart when 2 in. high. **SPECIES ADAPTED FOR CARPET BEDDING**: *S. dasyphyllum* 3 in. & *S. glaucum*, 3 in., glaucous foliage; *S. acre elegans* 3 in. & *S. anglicum* 2 in., yellow foliage; *S. lydium* 2 in., green foliage. *Propagate* greenhouse species (*S. carneum*, *S. Sieboldi*, etc.), by seeds sown in well drained pots or pans filled with fine compost of equal parts brick rubble, sandy loam & sand, & placed in temp. of 55°, Feb. to May; also by cuttings of shoots inserted in brick rubble, loam, & sand, in temp. 45° to 55° in sum.; division of roots at potting time. Hardy species by seeds sown outdoors in Ap., or division of the roots in Mar. or Ap.

Sego (*Calochortus Nuttallii*)—see *Calochortus*.

Selaginella (Creeping Moss, Tree Club Moss, Rock Lily, Garden Club Moss, Resurrection Plant, Serpent Moss).—*Ord.* Lycopodiaceæ. Stove & greenhouse orn. foliage plants. Evergreen. *Nat.* E. Indies, Brazil, Central America, Tropical America, Fiji Islands, Mexico, New Grenada, Ceylon, W. Africa, Cochin China, N. America. *Int.* 1860. *Ht.* 1 to 18 in. *Species* cultivated, 53. *Fronds*, creeping or erect; branched; green or variegated. *Compost*, equal parts fibrous peat & chopped sphagnum moss. *Position*, pots, pans, or rockeries in shade. *Pot* or plant, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 70° to 80° for stove species; Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65° for greenhouse species. *Propagate* by cuttings about 3 in. long inserted in above compost in well drained pots, & plunged in cocoanut-fibre refuse in a temp. of 80° at all seasons.

Selaginella-tree (*Selaginella selaginoides*)—see *Selaginella*.

Selenipedium.—See *Cypripedium*.

Sempervivum (House-leek, Bullock's Eye, Jupiter's Beard, Jupiter's Eye).—*Ord.* Crassulaceæ. Greenhouse & hardy succulent-leaved perennials. *Nat.* S. & Central Europe, Britain, Levant, Siberia, Canaries, Madeira, Tenerife. *Int.* (foreign species), 1640. *Ht.* 3 in. to 4 ft. *Species* cultivated, 39 hardy; 24 greenhouse. *Flowers*, purple, red, & yellow; sum. *Leaves*, fleshy green or variegated. **CULTURE OF HARDY SPECIES**: *Soil*, ordinary light, sandy, containing a little old mortar. *Position*, open & sunny; chinks, crevices, or ledges of rockeries; edgings to borders. *Plant*, Mar. to June. If used for edgings, plant close together in single or double rows. *Top-dress* annually in Mar. with old & dried cowdung. *Common House-leek* (*S. tectorum*) adapted for growing on sunny roofs or in crevices of old walls. *Plant* in a

mixture of cowdung & clay in Mar. or Ap. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, equal parts sandy loam, leaf-mould, & brick rubbish. *Position*, well drained pots or pans in sunny part of greenhouse or window. *Pot*, Mar. *Water* moderately, Ap. to Oct.; keep nearly dry remainder of year. *No stimulants*, shading, or syringing needed. *Temp.*, Mar. to Oct., 55° to 75°; Oct. to Mar., 40° to 50°. *Propagate* by seeds sown in spring in a compost of equal parts sandy loam, leaf-mould, & old mortar, in well drained shallow pans, slightly covered with fine mould, & placed in temp. 55° to 65; cuttings of shoots or leaves dried for a day or so after removal from the plant & inserted in above compost in sum.; division or offsets in Mar.

Senecio (*Jacobæa*, Groundsel).—*Ord.* Compositæ. Greenhouse & hardy annuals, evergreen herbs or climbers & herbaceous perennials. *Nat.* Europe, N. America, Japan, Caucasus, Cape of Good Hope, China, Mexico, Peru, E. Indies. *Int.* 1683. *Ht.* 3 in. to 6 ft. *Species* cultivated, 30 hardy herbaceous; 43 greenhouse evergreens; 15 annuals; 1 hardy evergreen. *Flowers*, purple, yellow, white, lilac, scarlet; May to Dec. **OUTDOOR CULTURE OF ANNUAL SPECIES** (*S. elegans*, etc.): *Soil*, ordinary rich. *Position*, sunny beds or borders. *Sow* seeds in Ap. $\frac{1}{2}$ in. deep in patches or lines where required to grow. *Thin* seedlings 3 to 6 in. apart when 1 in. high. **POT CULTURE OF S. ELEGANS:** *Compost*, two parts sandy loam, one part leaf-mould, or well decayed manure, & one part sand. *Place* in 6-in. pots, well drained, press firmly & sow seeds thinly in Ap., covering with fine mould. *Stand* pots in cold greenhouse, window, or frame. *Thin* seedlings when 1 in. high to 2 in. apart. *Water* moderately & apply stimulants when flowers show. **CULTURE OF GREENHOUSE SPECIES** (*S. mikamoices*—German Ivy—etc.): *Compost*, two parts sandy loam, one part well decayed manure or leaf-mould, & one part sand. *Position*, well drained pots in sunny greenhouse or window; dwarf kinds on staging or inside window sills, tall kinds trained up roof of greenhouse or round window frames. *Pot*, Mar. or Ap. *Water* freely, Ap. to Oct.; very little afterwards. *Apply* stimulants occasionally in sum. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar. 40° to 50°. **CULTURE OF HARDY SPECIES** (*S. pulcher*, etc.): *Soil*, deep rich loam. *Position*, partially shady moist border. *Plant*, Mar. or Ap. *Mulch* with decayed manure annually in Mar. *Water* freely in dry weather. *Propagate* greenhouse species by seeds sown in Ap. $\frac{1}{2}$ in. deep in a compost of equal parts loam, leaf-mould, & sand, in well drained pots or pans in temp. 65° to 75°; by cuttings inserted in similar soil & temp. in spring or sum. Hardy species by seeds sown $\frac{1}{2}$ in. deep outdoors in Ap.; division of the roots in Mar. or Ap.

Sengreen (*Sempervivum tectorum* & *Saxifraga nivalis*)—see *Sempervivum* & *Saxifraga*.

Senna Oil-plant (*Cassia senna*)—see *Cassia*.

Sensitive Fern (*Onoclea sensibilis*)—see *Onoclea*.

Sensitive Plant (*Mimosa sensitiva*)—see *Mimosa*.

Sequoia (Mammoth Tree, Californian Red wood. *Ord.* Coniferæ. Hardy evergreen coniferous trees. *Nat.* California. *Int.* 1853. *Ht.* 300 ft. *Species* cultivated, 2; varieties several. *Habit*, pyramidal. *Leaves*, small, scale-like, pointed. *Soil*, sandy loam or reclaimed bog. *Position*, sunny sheltered. *Plant*, Sept., Oct., Ap. or May. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pans of sandy loam placed in cold frames in spring; transplanting seedlings when large enough to handle, 6 in. apart in nursery rows 6 in. asunder; by cuttings of shoots inserted in sandy loam under bell-glass, hand-light, or cold frame, Sept. & Oct.; variegated kinds by grafting on common species in spring.

Serapias (Tongue-flowered Orchid).—*Ord.* Orchidaceæ. Hardy terrestrial orchids. *Nat.* Mediterranean Region. *Int.* 1786. *Ht.* 6 in. to 18 ft. *Species* cultivated, 4; varieties 3. *Flowers*, lilac, purple, yellow, green; Ap. to July. *Compost*, calcareous loam or clay mixed with pieces of limestone. *Position*, sunny deep well drained borders. *Plant*, Aug. to Nov., placing

tubers 2 in. below surface. *Water* freely during growing period. *Mulch* with decayed manure annually in Mar. or Ap. *Lift* & replant when unhealthy only. *Propagate* by division of tubers, Aug. to Nov

Serapias Turbith (*Aster tripolium*)—see Aster.

Sericographis.—*Ord.* Acanthaceæ. Stove flowering perennial. *Nat.* Mexico. *Int.* 1843. *Ht.* 18 in. *Species* cultivated, 1. *Flowers*, scarlet; Oct. to Feb. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, well drained pots in light stove, Sept. to June; sunny frame, June to Sept. *Pot*, Mar. or Ap. *Water* moderately, Sept. to Mar.; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally, May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to July.

Serpent's Beard (*Ophiopogon japonicus*)—see Ophiopogon.

Serpent's-tongue (*Erythronium americanum*)—see Erythronium.

Serpyllum-leaved Sun-rose (*Helianthemum serpyllifolia*)—see Helianthemum.

Service-berry (*Amelanchier canadensis*)—see Amelanchier.

Service-tree (*Pyrus Sorbus*)—see Pyrus.

Sesban (*Sesbania ægyptica*)—see Sesbania.

Sesbania (Pea-tree).—*Ord.* Leguminosæ. Stove climbing shrubs & greenhouse annuals. *Nat.* Egypt, E. Indies, Mexico, Florida, *Int.* 1680. *Ht.* 4 to 30 ft. *Species* cultivated, 4 stove shrubs; 2 greenhouse annuals; 1 stove biennial. *Flowers*, yellow, rose; May to Aug. **CULTURE OF SHAUBBY SPECIES** (*S. grandiflora*, etc.): *Compost*, equal parts loam & peat with little sand. *Position*, well drained pots or beds with shoots trained to trellis or up rafters of roof. *Pot* or plant, Feb. or Mar. *Shade* from sun. *Syringe* daily, Ap. to Aug. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Sept. to Ap., 60° to 70°; Ap. to Sept., 75° to 85°. **CULTURE OF ANNUAL SPECIES** (*S. macrocarpa*, etc.): *Compost*, equal parts loam, leaf-mould, peat, & sand. *Sow* seeds thinly in well drained pots or pans in Feb. or Mar.; cover lightly with fine mould, & place under bell-glass in temp. of 60° to 70°. *Transplant* seedlings when three leaves form 3 in a 3-in. pot & grow in a temp. of 55° to 65°. *Transfer* to 6 or 8 in. pots when well rooted. *Train* shoots to trellis. *Water* freely. *Apply* weak stimulants when flowers form. *Place* in cool greenhouse when in flower. *Propagate* shrubby species by cuttings of half-ripened shoots, 2 in. long, inserted in sand under bell-glass in temp. of 70° to 80° in sum.

Seven-year Vine (*Ipomœa tuberosa*)—see Ipomœa.

Seville Orange-tree (*Citrus aurantium amara*)—see Citrus.

Saad-bush (*Amelanchier canadensis*)—see Amelanchier.

Shaddock-tree (*Citrus decumana*)—see Citrus.

Shad-flower (*Amelanchier canadensis*)—see Amelanchier.

Shaggy-fruited Rose (*Rosa villosa*)—see Rose.

Shaggy-leaved Primrose (*Primula villosa*)—see Primula.

Shaggy Lychnis (*Lychnis Haageana*)—see Lychnis.

Shaggy Toad flax (*Linaria villosa*)—see Linaria.

Shaggy Windflower (*Anemone vernalis*)—see Anemone.

Shaking Grass (*Briza media*)—see Briza.

Shallon-shrub (*Gaultheria shallon*)—see Gaultheria.

Shallot (*Allium ascalonicum*)—see Onion.

Shamrock Pea (*Parochetus communis*)—see Parochetus.

Shanghae Jasmine (*Rhynchospermum jasminoides*)—see Rhynchospermum.

- Shanghae Oil-plant (*Brassica chinensis*)—see *Brassica*.
 Share-wort (*Aster tripolium*)—see *Aster*.
 Shaylock's Snowdrop (*Galanthus Shaylacki*)—see *Galanthus*.
 Sheep's-bit Scabious (*Jasione montana*)—see *Jasione*.
 Sheep's-poison Laurel (*Kalmia angustifolia*)—see *Kalmia*.
 She Heather (*Erica cinerea*)—see *Erica*.
 She Oak (*Casuarina stricta*)—see *Casuarina*.
 Shell-flower (*Chelone obliqua*)—see *Chelone*.
 Shepherdia (Beef Suet Tree, Rabbit Berry, Missouri Berry Tree).—
Ord. Elæagnaceæ. Hardy deciduous shrub. Orn. foliage & fruiting. *Nat.*
N. America. *Int.* 1759. *Species* cultivated, 1. *Ht.* 3 to 10 ft. *Flowers*,
 yellow; *Ap.* to May. *Fruit*, scarlet & yellow. *Leaves*, egg-shaped & silvery.
Soil, ordinary. *Position*, open or shady shrubberies & inland or seaside gar-
 dens. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep outdoors in
 Nov. or Dec.; by cuttings of roots inserted in Feb. or Mar. in ordinary soil
 outdoors; layering shoots in autn.
 Shepherd's Club (*Verbascum Thapsus*)—see *Verbascum*.
 Shepherd's Club Mullein (*Verbascum Thapsus*)—see *Verbascum*.
 Shepherd's Myrtle (*Ruscus aculeatus*)—see *Ruscus*.
 Shepherd's Rod (*Dipsacus pilosus* & *D. sylvestris*)—see *Dipsacus*.
 Shepherd's Staff (*Dipsacus pilosus* & *D. sylvestris*)—see *Dipsacus*.
 Shield Fern (*Polystichum angulare*)—see *Polystichum*.
 Shield-flower (*Aspidistra lurida*)—see *Aspidistra*.
 Shield-leaved Saxifrage (*Saxifraga peltata*)—see *Saxifraga*.
 Shingle Oak (*Quercus imbricaria*)—see *Quercus*.
 Shining Begonia (*Begonia lucida*)—see *Begonia*.
 Shining-leaved Laurestinus (*Viburnum Tinus lucidum*)—see
Viburnum.
 Shining-leaved Privet (*Ligustrum japonicum lucidum*)—see *Ligus-*
trum.
 Shining-leaved Rose (*Rosa lucida*)—see *Rosa*.
 Shining Rock Purslane (*Calandrinia nitida*)—see *Calandrinia*.
 Shin-leaf (*Pyrola elliptica*)—see *Pyrola*.
 Shoe-black-plant (*Hibiscus rosa-sinensis*)—see *Hibiscus*.
 Shooting Star (*Dodecatheon meadia*)—see *Dodecatheon*.
 Shortia.—*Ord.* Diapensiaceæ. Hardy perennial herb. *Nat.* Alleg-
 hany Mountains. *Int.* 1883. *Ht.* 4 in. *Species* cultivated, 1. *Flowers*, white,
 Feb. to May. *Soil*, equal parts sandy peat & leaf-mould. *Position*, partially
 shady border, rhododendron bed, or cold frame. *Plant*, *Ap.* *Water* freely in
 dry weather. *Protect* with thick layer of cocoanut-fibre refuse & dry bracken.
Propagate by division of roots in *Ap.*
 Short-leaved Stonecrop (*Sedum brevifolium*)—see *Sedum*.
 Short-stalked Honeysuckle (*Lonicera brachypoda*)—see *Lonicera*.
 Showy Amaranth (*Amarantus speciosus*)—see *Amarantus*.
 Showy American Orchis (*Orchis spectabilis*)—see *Orchis*.
 Showy Azalea (*Azalea speciosa*)—see *Azalea*.
 Showy Cone-flower (*Rudbeckia speciosa*)—see *Rudbeckia*.
 Showy Flea-bane (*Erigeron speciosa*)—see *Erigeron*.
 Showy-flowered Bramble (*Rubus spectabilis*)—see *Rubus*.
 Showy-flowered Raspberry (*Rubus spectabilis*)—see *Rubus*.
 Showy Groundsel (*Senecio speciosus*)—see *Senecio*.
 Showy Lady's-slipper (*Cypripedium spectabile*)—see *Cypripedium*.
 Showy Larkspur (*Delphinium formosum*)—see *Delphinium*.
 Showy Lobelia (*Lobelia speciosa*)—see *Lobelia*.

- Showy Milfoil** (*Achillea nobilis*)—see *Achillea*.
Showy Mock Orange (*Philadelphus speciosus*)—see *Philadelphus*.
Showy Pentstemon (*Pentstemon speciosus*)—see *Pentstemon*.
Showy Primrose (*Primula spectabilis*)—see *Primula*.
Showy Sea Lavender (*Statice speciosa*)—see *Statice*.
Showy Star-wort (*Aster spectabilis*)—see *Aster*.
Showy Sun-rose (*Helianthemum venustum*)—see *Helianthemum*.
Showy Syringa (*Philadelphus speciosus*)—see *Philadelphus*.
Showy Tamarisk-tree (*Tamarix spectabilis*)—see *Tamarix*.
Showy Tooth-wort (*Dentaria digitata*)—see *Dentaria*.
Showy White-flowered Bramble (*Rubus deliciosus*)—see *Rubus*.
Shrubby Bindweed (*Convolvulus cneorum*)—see *Convolvulus*.
Shrubby Cinquefoil (*Potentilla fruticosa*)—see *Potentilla*.
Shrubby Gromwell (*Lithospermum fruticosum*)—see *Lithospermum*.
Shrubby Meadow-sweet (*Spiræa ariaefolia*)—see *Spiræa*.
Shrubby Rest-harrow (*Ononis fruticosa*)—see *Ononis*.
Shrubby Rock Rose (*Cistus villosus* & *C. frutescens*)—see *Cistus*.
Shrubby Star-wort (*Aster albescens* & *Eurybia ramulosa*)—see

Aster & *Eurybia*.

- Shrubby Tansy** (*Tanacetum suffruticosum*)—see *Tanacetum*.
Shrubby Tree-Celandine (*Bucconia frutescens*)—see *Bucconia*.
Siberian Apricot (*Armeniaca sibirica*)—see *Armeniaca*.
Siberian Barberry (*Berberis sibirica*)—see *Berberis*.
Siberian Iris (*Iris sibirica*)—see *Iris*.
Siberian Lady's-slipper (*Cypripedium macranthum*)—see *Cypripedium*.

Siberian Larkspur (*Delphinium grandiflorum*)—see *Delphinium*.
Siberian Lung-wort (*Pulmonaria sibirica*)—see *Pulmonaria*.
Siberian Orange Lily (*Lilium davuricum*)—see *Lilium*.
Siberian Purslane (*Claytonia sibirica*)—see *Claytonia*.
Siberian St. John's-wort (*Hypericum ascyron*)—see *Hypericum*.
Siberian Savin-tree (*Juniperus pseudo-sabina*)—see *Juniperus*.
Siberian Scarlet Lily (*Lilium pulchellum*)—see *Lilium*.
Siberian Skuil Cap (*Scutellaria macrantha*)—see *Scutellaria*.
Siberian Speedwell (*Veronica sibirica*)—see *Veronica*.
Siberian Spruce (*Picea sibirica* & *P. obovata*)—see *Picea*.
Siberian Squill (*Scilla sibirica*)—see *Scilla*.
Sibthorpia (Cornish Money-wort).—*Ord.* Scrophulariaceæ. **Greenhouse** & hardy creeping perennial herbs. *Nat.* Britain, Madeira. *Species* cultivated, 2; variety 1. *Flowers*, yellow; *July*. *Leaves*, small, round, green, or variegated with white. **CULTURE OF S. EUROPEA VARIEGATA**: *Compost*, equal parts loam, leaf-mould, & little sand. *Position*, moist partially shady borders or rockeries outdoors, or in pots or pans in cold frame, or cool shady indoor fernery or greenhouse under bell-glass. *Pot* or plant, *Mar.* or *Ap.* *Water* copiously in dry weather outdoors; also indoors, *Ap.* to *Sept.*; moderately other times. *Moist* atmosphere essential for indoor culture. **CULTURE OF S. PERIOPHILA**: *Compost*, as above. *Position*, pots or baskets suspended from roof. *Pot*, *Feb.* or *Mar.* *Shade* from sun. *Water* copiously in sum.; moderately in winter. *Temp.*, *Sept.* to *Mar.*, 40° to 50°; *Mar.* to *Sept.*, 50° to 60°. *Propagate* by cuttings inserted in pots of light soil placed under bell-glass in cold greenhouse or frame in sum.; division of plants in *Ap.*

Sibthorp's Daffodil (*Narcissus obvallaris*)—see *Narcissus*.

Sicilian Saffron-plant (*Crocus odoratus*)—see *Crocus*.

Sickle-pine-coned Chinese Arbor-vitæ (*Biota falcata*)—see *Biota*.

Sidalcea.—*Ord.* Malvaceæ. Hardy perennial herbs. *Nat.* Colorado, Texas. *Int.* 1838. *Ht.* 18 in. to 3 ft. *Species* cultivated, 2. *Flowers*, white, lilac; *sum.* *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Ap. *Leaf*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in Ap., transplanting seedlings when 1 in. high; division of roots, Oct. to Ap.

Side-saddle-flower (*Sarracenia purpurea*)—see *Sarracenia*.

Sieber's Crocus (*Crocus Sieberi*)—see *Crocus*.

Siebold's Plantain Lily (*Funkia Sieboldi*)—see *Funkia*.

Siebold's Primrose (*Primula Sieboldi*)—see *Primula*.

Siebold's Stonecrop (*Sedum Sieboldi*)—see *Sedum*.

Sikkim Cowslip (*Primula sikkimensis*)—see *Primula*.

Sikkim Poppy (*Meconopsis simplicifolia*)—see *Meconopsis*.

Sikkim Rhubarb (*Rheum nobile*)—see *Rheum*.

Silene (Campion, Catchfly).—*Ord.* Caryophyllaceæ. Hardy annuals & herbaceous perennials. *Nat.* Britain, Europe, Asia, N. America, Mexico, Africa, Egypt. *Int.* (foreign species) 1640. *Ht.* 2 in. to 3 ft. *Species* cultivated, 59 annuals; 69 perennials. *Flowers*, rose, pink, purple, white, lilac, yellow, red; May to Sept. **CULTURE OF ANNUAL SPECIES** (*S. pendula*, etc.): *Soil*, ordinary light or sandy. *Position*, sunny beds or borders. *Sow* seeds in Aug. or Sept. $\frac{1}{2}$ in. in a bed of light rich soil; transplanting seedlings when 1 in. high, 2 to 3 in. apart; & plant 6 in. apart in flowering positions in Mar. for spring blooming. *Sow* also in similar depth & position in Ap., transplant when 1 in. high to flowering positions for sum. blooming. Or sow where required to grow & flower in Ap., thinning out seedlings in May or June to 6 in. apart. **CULTURE OF PERENNIAL SPECIES** (*S. acaulis*, *S. maritima*, *S. virginica*, etc.): *Soil*, sandy loam, enriched with decayed cow dung; $\frac{1}{2}$ loam, $\frac{1}{2}$ peat, $\frac{1}{2}$ stones for *S. Elisabethæ*. *Position*, sunny crevices or ledges of rockeries for *S. acaulis*, *S. alpestris*, *S. pumilo*, *S. virginica*, & *S. Elisabethæ*; open borders for *S. maritima*, etc. *Plant*, Mar. or Ap. *Top-dress* annually in Mar. with decayed cow dung & sandy loam. *Leaf* & replant only when absolutely necessary. *Propagate* perennials by seeds sown in pans or boxes of sandy loam & leaf-mould, lightly covered with fine mould, & placed in cold frame in Mar. or Ap.; by cuttings of young shoots inserted in sandy loam in cold frame in sum.; by division in Mar. or Ap.

Silk-bark Oak (*Grevillea robusta*)—see *Grevillea*.

Silk-Vine (*Periploca græca*)—see *Periploca*.

Silk-weed (*Asclepias tuberosa*)—see *Asclepias*.

Silky Daphne (*Daphne sericea*)—see *Daphne*.

Silky Dogwood (*Cornus sericea*)—see *Cornus*.

Silky-leaved Rock Rose (*Cistus sericeus*)—see *Cistus*.

Silky-leaved Rose (*Rosa sericea*)—see *Rosa*.

Silky Oak (*Grevillea robusta*)—see *Grevillea*.

Silky Star-wort (*Aster sericeus*)—see *Aster*.

Silphium (Compass Plant, American Cups, Pilot Weed, Rosin Plant).

—*Ord.* Compositæ. Hardy perennial herbs. *Nat.* N. America. *Int.* date unknown. *Ht.* 3 to 10 ft. *Species* cultivated, 5. *Flowers*, white, yellow; July to Sept. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Ap. *Leaf*, divide, & replant every 2 or 3 years. *Propagate* by division of roots, Oct. to Ap.

Silver Bell Tree (*Halesia tetraptera*)—see *Halesia*.

Silver-bracts (*Pachyphytum bracteosum*)—see *Pachyphytum*.

Silver-edged Alaternus (*Rhamnus alaternus argenteus*)—see *Rhamnus*.

Silver-edged Hydrangea (*Hydrangea japonica variegata*)—see *Hydrangea*.

Silver-edged-leaved Spindle-tree (*Euonymus japonicus argenteus*)—see *Euonymus*.

Silver-edged Primrose (*Primula marginata*)—see *Primula*.

Silver Fir (*Picea pectinata*)—see *Picea*.

Silver Grass (*Phalaris arundinacea variegata*)—see *Phalaris*.

Silver-head (*Paronychia argyrocoma*)—see *Paronychia*.

Silver-leaved Jasmine (*Jasminum officinale foliis-argenteis*)—see *Jasminum*.

Silver-leaved Lime-tree (*Tilia argentea*)—see *Tilia*.

Silver-leaved Palmetto Palm (*Thrinax argentea*)—see *Thrinax*.

Silver Maple (*Acer dasycarpum*)—see *Acer*.

Silver Moss Saxifrage (*Saxifraga cæsia*)—see *Saxifraga*.

Silver Pine (*Pinus picea*)—see *Pinus*.

Silver-rod (*Asphodelus racemosus*)—see *Asphodelus*.

Silver-striped Holly (*Ilex aquifolium argenteo-variegata*)—see *Ilex*.

Silver-striped-leaved Ash (*Fraxinus excelsior argentea*)—see *Fraxinus*.

Silver-tree (*Elæagnus argentea*)—see *Elæagnus*.

Silver-variegated Japan Cypress (*Retinospora obtusa argentea*)—see *Retinospora*.

Silver-variegated Platanus-leaved Maple (*Acer platanoides variegatum*)—see *Acer*.

Silver-variegated Snake's-beard (*Ophiopogon spicatus argente marginatus*)—see *Ophiopogon*.

Silver-variegated Yew (*Taxus baccata argentea*)—see *Taxus*.

Silver Vine (*Pothos argentea*)—see *Pothos*.

Silver Wattle (*Acacia dealbata*)—see *Acacia*.

Silvery Bind-weed (*Convolvulus cneorum*)—see *Convolvulus*.

Silvery Cedar (*Cedrus atlantica*)—see *Cedrus*.

Silvery Clary (*Salvia argentea*)—see *Salvia*.

Silvery Cud-weed (*Antennaria tomentosa*)—see *Antennaria*.

Silvery-leaved Arbor-vitæ (*Thuja occidentalis argentea*)—see *Thuja*.

Silvery-leaved Box-tree (*Buxus sempervirens argentea*)—see *Buxus*.

Silvery-leaved Cineraria (*Cineraria maritima*)—see *Cineraria*.

Silvery-leaved Oleaster (*Elæagnus argentea*)—see *Elæagnus*.

Silvery-leaved Red Cedar (*Juniperus virginiana argentea*)—see *Juniperus*.

Silvery-leaved Sage (*Salvia argentea*)—see *Salvia*.

Silvery-leaved Salt-tree (*Halimodendron argenteum*)—see *Halimodendron*.

Silvery-leaved Sunflower (*Helianthus argyrophyllus*)—see *Helianthus*.

Silvery Mug-wort (*Artemisia argentea*)—see *Artemisia*.

Silvery Rattlesnake Plantain (*Goodyera pubescens*)—see *Goodyera*.

Silvery Reed (*Arundo conspicua*)—see *Arundo*.

Silvery Rhododendron (*Rhododendron argenteum*)—see *Rhododendron*.

Silvery Scabious (*Centaurea argentea*)—see *Centaurea*.

Silvery Tree Fern (*Cyathea dealbata*)—see *Cyathea*.

Silybium (Milk Thistle).—*Ord.* Compositæ. Hardy perennial herb. *Orn.* foliage. *Nat.* S. Europe. *Int.* date unknown. *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Leaves*, large, variegated with broad white veins. *Soil*, ordinary. *Position*, open borders. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in Mar. where plants are to grow.

Simmond's Bamboo (*Bambusa Simmondii*)—see *Bambusa*.

Simpson's Hardy Hedgehog Cactus (*Echinocactus Simpsoni*)—see *Echinocactus*.

Sinapis (Mustard).—*Ord.* Cruciferae. Hardy annual. *Nat.* Britain. *Ht.* 3 to 4 ft. *Species* cultivated, 1. *Flowers*, yellow May & June. *Leaves* used in conjunction with those of cress for salads. **OUTDOOR CULTURE:** *Soil*, ordinary. *Position*, open borders. *Sow* seeds on surface of soil, water, & cover with mats or boards till they germinate; or in drills $\frac{1}{2}$ in. deep, & 6 in. apart. *Make* first sowing end of Mar., follow with successional sowings every 5 days until Sept., then cease. *Gather* for salading when 1 in. high. Two crops sufficient off one piece of ground. **INDOOR CULTURE:** *Sow* seed on surface of light soil in shallow boxes, moisten with tepid water, cover with sheet of paper, slate, or board, & place in warm position in greenhouse or room. *Sow* for successions every 3 days. Two crops may be grown in same soil. *Seeds* may be sown in flannel kept moist in a warm room, at any time of year.

Singapore Wax-Dammar (*Podocarpus polystachya*)—see *Podocarpus*.

Single Spruce (*Abies alba*)—see *Abies*.

Sinningia.—See *Gloxinia*.

Sisyrinchium (Blue-eyed Grass, Pig-root, Satin-flower, Rush Lily).—*Ord.* Iridaceae. Hardy & half-hardy perennials. *Nat.* N. America, Mexico, Brazil, Chili. *Int.* 1693. *Ht.* 6 to 12 in. *Species* cultivated, 5 hardy; about 8 half hardy. **CULTURE OF HARDY SPECIES** (*S. graniflorum*, etc.): *Soil*, two parts sandy loam, one part peat. *Position*, sunny rockery. *Plant*, Oct. or May. **CULTURE OF HALF-HARDY SPECIES** (*S. iridiflorum*, etc.): *Co. post*, equal parts sandy loam, leaf-mould, & sand. *Position*, sunny cold frame or greenhouse all the year round. *Pot*, Oct. or Mar. *Water* freely, Mar. to Sept.; keep nearly dry afterwards. *Repot* annually. *Propagate* by offsets, removed & potted in Mar.

Sium (Skirret).—*Ord.* Umbelliferae. Hardy esculent-rooted perennial. *Nat.* China. *Int.* 1548. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, white; *Aug.* *Roots*, cylindrical, clustered, white, sweet-flavoured. *Soil*, ordinary fine, rich, deeply trenched, free from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills $\frac{1}{2}$ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., *twist* off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures* for: 2½ lbs. kamit, 1 lb. sulphate of ammonia, 2½ lbs. of guano mixed per square rod (30½ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Six-angled Stoncrop (*Sedum sexangulare*)—see *Sedum*.

Skewer-wood (*Cornus sanguinea* & *Euonymus europæus*)—see *Cornus* & *Euonymus*.

Skimmia.—*Ord.* Rutaceae. Hardy evergreen berry bearing & orn. foliage shrubs. *Nat.* Himalayas, Japan. *Int.* 1845. *Species* cultivated, 7. *Ht.* 3 to 4 ft. *Flowers*, white; fragrant; *Mar.* to Ap. *Berries* scarlet; autumn. *Soil*, stiff loam or loam & peat. *Position*, partially shady or open sheltered borders. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by seeds sown when ripe in sandy loam & peat in cold frame; by cuttings of firm shoots inserted under bell-glass in temp. 55° to 65° in spring or sum.; layering shoots in autumn.

Skinner's Columbine (*Aquilegia Skinneri*)—see *Aquilegia*.

Skirret (*Sium sisarum*)—see *Sium*.

Skoke (*Phytolacca decandra*)—see *Phytolacca*.

Sky-blue Grape-Hyacinth (*Muscari botryoides*)—see *Muscari*.

Sky-blue Pickerel-weed (*Pontederia azurea*)—see *Pontederia*.

- Slender Bamboo** (*Bambusa gracilis*)—see *Bambusa*.
Slender-branched Buckthorn (*Rhamnus virgatus*)—see *Rhamnus*.
Slender-branched Gooseberry (*Ribes gracile*)—see *Ribes*.
Slender-branched Rhododendron (*Rhododendron virgatum*)—see *Rhododendron*.
Slender Dahlia (*Dahlia gracilis*)—see *Dahlia*.
Slender Fuchsia (*Fuchsia gracilis*)—see *Fuchsia*.
Slender-leaved Adam's Needle (*Yucca tenuifolia*)—see *Yucca*.
Slender-leaved Asparagus (*Asparagus tenuifolius*)—see *Asparagus*.
Slender-leaved Pæony (*Pæonia tenuifolia*)—see *Pæonia*.
Slender-leaved Star-wort (*Aster tenuifolius*)—see *Aster*.
Slender Saxifrage (*Saxifraga tenella*)—see *Saxifraga*.
Slender Trailing Sun-rose (*Helianthemum vineale*)—see *Helianthemum*.
Slipper Flower (*Calceolaria calceolus*)—see *Calceolaria*.
Slipper-wort (*Calceolaria calceolus*)—see *Calceolaria*.
Slippery Elm of California (*Fremontia californica*)—see *Fremontia*.
Sloe-tree (*Prunus spinosa*)—see *Prunus*.
Small Bulbous Iris (*Iris Xiphium*)—see *Iris*.
Small Cape Marigold (*Calendula pluvialis*)—see *Calendula*.
Small-flowered Magnolia (*Magnolia parviflora*)—see *Magnolia*.
Small-flowered Snowdrop-tree (*Halesia parviflora*)—see *Halesia*.
Small-flowered Windflower (*Anemone parviflora*)—see *Anemone*.
Small Globe-Thistle (*Echinops Ritro*)—see *Echinops*.
Small Jonquil (*Narcissus pumilus*)—see *Narcissus*.
Small-leaved Common Elm (*Ulmus campestris parvifolia*)—see *Ulmus*.
Small-leaved Cotoneaster (*Cotoneaster microphylla*)—see *Cotoneaster*.
Small-leaved Fuchsia (*Fuchsia microphylla*)—see *Fuchsia*.
Small-leaved Myrtle (*Myrtus communis mucronata*)—see *Myrtus*.
Small-leaved Red-root (*Ceanothus microphyllus*)—see *Ceanothus*.
Small-leaved Snowberry-tree (*Symphoricarpus microphyllus*)—see *Symphoricarpus*.
Small Lily (*Lilium parvum*)—see *Lilium*.
Small Periwinkle (*Vinca minor*)—see *Vinca*.
Small St. John's-wort (*Hypericum pusillum*)—see *Hypericum*.
Small Spreading Lobelia (*Lobelia erinus*)—see *Lobelia*.
Small Yellow Alyssum (*Alyssum calycinum*)—see *Alyssum*.
Smaller Bladder Senna (*Colutea media*)—see *Colutea*.
Smaller Wych Elm (*Ulmus montana minor*)—see *Ulmus*.
Smilacina (False Solomon's Seal, False Spikenard).—*Ord.* Liliaceæ. Hardy perennials. *Nat.* N. America, Sikim. *Int.* 1633. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Flowers*, white; May. *Soil*, ordinary light deep, rich. *Position*, partially shady, moist shrubberies, woodlands, banks or borders. *Plant*, Oct. to Mar. *Propagate* by division of roots, Oct. to Mar.
Smilax (*Myrsiphyllum asparagoides*)—see *Myrsiphyllum*.
Smilax (Sarsaparilla Plant, American China-root, Prickly Ivy).—*Ord.* Liliaceæ. Greenhouse & hardy evergreen climbers. *Orn.* foliage. *Nat.* S. Europe, U.S.A., Australia, China, Japan. *Int.* 1648. *Ht.* 3 to 16 ft. *Species* cultivated, 12 hardy; 2 greenhouse. *Flowers*, insignificant. *CULTURE OF HARDY SPECIES* (*S. aspera*, etc.): *Soil*, ordinary. *Position*, sunny walls, arbours, trellises, or banks. *Plant*, Sept. or Oct.; Mar. or Ap. *CULTURE OF GREENHOUSE SPECIES* (*S. ornata*, etc.): *Compost*, two parts sandy loam, one

part peat, & little sand. *Position*, well drained pots or beds with shoots trained up trellis or up rafters. *Pot* or plant, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Mar. to Sept., 60° to 70°; Sept. to Mar., 45° to 55°. *Propagate* by division of roots at planting or potting time.

Smoke-tree (*Rhus cotinus*)—see *Rhus*.

Smoke-wood (*Clematis vitalba*)—see *Clematis*.

Smooth Alum-root (*Heuchera glabra*)—see *Heuchera*.

Smooth False Fox-glove (*Gerardia quercifolia*)—see *Gerardia*.

Smooth-fruit Horse Chestnut (*Pavia rubra*)—see *Pavia*.

Smooth Helen-flower (*Helenium autumnale*)—see *Helenium*.

Smooth Honey Locust-tree (*Gleditschia lavis*)—see *Gleditschia*.

Smooth Iris (*Iris lavigata*)—see *Iris*.

Smooth-leaved Carolina Allspice (*Calycanthus lavigata*)—see *Calycanthus*.

Smooth-leaved Elm (*Ulmus glabra*)—see *Ulmus*.

Smooth-leaved Rose Campion (*Lychnis Cæli-rosa*)—see *Lychnis*.

Smooth-leaved Storax-plant (*Styrax lavigata*)—see *Styrax*.

Smooth-leaved Wych Elm (*Ulmus montana glabra*)—see *Ulmus*.

Smooth Lungwort (*Mertensia virginica*)—see *Mertensia*.

Smooth Rock Spleenwort (*Asplenium fontanum*)—see *Asplenium*.

Smooth Star-wort (*Aster lavis lavigatus*)—see *Aster*.

Snail-flower (*Phaseolus caracalla*)—see *Phaseolus*.

Snake-charm (*Bauhinia anguina*)—see *Bauhinia*.

Snake Fern (*Blechnum spicant*)—see *Blechnum*.

Snake Gourd (*Trichosanthes anguina*)—see *Trichosanthes*.

Snake-plant (*Arum dracunculoides*)—see *Arum*.

Snake-weed (*Polygonum bistorta*)—see *Polygonum*.

Snake's-beard (*Ophiopogon japonicus*)—see *Ophiopogon*.

Snake's-head Fritillary (*Fritillaria meleagris*)—see *Fritillaria*.

Snake's-tongue Fern (*Lygodium japonicum*)—see *Lygodium*.

Snappedragon (*Antirrhinum majus*)—see *Antirrhinum*.

Snow-ball-tree (*Viburnum opulus*)—see *Viburnum*.

Snow-berry-tree (*Symphoricarpos racemosus*)—see *Symphoricarpos*.

Snowdrop (*Galanthus nivalis*)—see *Galanthus*.

Snowdrop Anemone (*Anemone sylvestris*)—see *Anemone*.

Snowdrop-tree (*Halesia tetraptera*)—see *Halesia*.

Snowdrop Windflower (*Anemone sylvestris*)—see *Anemone*.

Snowflake (*Leucojum vernum*)—see *Leucojum*.

Snowflower (*Chionanthus virginica*)—see *Chionanthus*.

Snow-glory (*Chionodoxa Lucilic*)—see *Chionodoxa*.

Snow-in-Summer (*Cerastium tomentosum*)—see *Cerastium*.

Snow Pear-tree (*Pyrus nivalis*)—see *Pyrus*.

Snow-Rosette (*Primula minima*)—see *Primula*.

Snow-white Mullein (*Verbascum niveum*)—see *Verbascum*.

Snow-white Primrose (*Primula nivalis*)—see *Primula*.

Snowy-flowered Crowfoot (*Ranunculus amplexicaulis*)—see *Ranunculus*.

Snowy-leaved Rhododendron (*Rhododendron niveum*)—see *Rhododendron*.

Snowy Medlar (*Mespilus grandiflora*)—see *Mespilus*.

Soap-wood (*Clethra alnifolia*)—see *Clethra*.

Soap wort (*Saponaria officinalis*)—see *Saponaria*.

Sobralia.—Ord. Orchidaceæ. Stove terrestrial orchids. *Nat.*

Columbia, Peru, Guiana, New Grenada, Mexico, Brazil, Central America. *Int.* 1836. *Ht.* 1 to 6 ft. *Species* cultivated, about 16; *varieties* several. *Flowers*, white, purplish crimson, pink, violet, yellow, rose, brown; *sum.* *Compost*, two parts strong turfy loam; one part of equal proportions of coarse sand & broken charcoal. *Position*, light part of house at all seasons. *Pot*, Feb. or Mar., filling pot $\frac{1}{2}$ of its depth with coarse crocks, then add a layer of sphagnum moss & sufficient compost to fill pot to within 1 in. of its rim. *Press* soil moderately firm. *Water* copiously, Ap. to Sept.; moderately other times. *Apply* weak stimulants to established plants in sum. *Shade* from sun unnecessary. *Repot* only when soil is overcrowded with roots. *Temp.*, Oct. to Ap., 55° to 65°; Ap. to Oct., 65° to 75°. *Growing period* all the year round. *Propagate* by division at potting time.

Socotran Begonia (*Begonia socotrana*)—see Begonia.

Soft-leaved Azalea (*Azalea mollis*)—see Azalea.

Soft-leaved Bear's Brush (*Acanthus mollis*)—see Acanthus.

Soft-leaved Primrose (*Primula mollis*)—see Primula.

Soft Maple (*Acer dasycarpum*)—see Acer.

Soft Prickly Shield Fern (*Polystichum angulare*)—see Polystichum.

Solandra.—*Ord.* Solanacæ. *S* ome evergreen & deciduous climbing shrubs. *Flowering.* *Nat.* Jamaica, Mexico, S. America, Brazil. *Int.* 1781. *Ht.* 2 to 20 ft. *Species* cultivated, 5. *Flowers*, white greenish; *May* to *Oct.* *Compost*, two parts sandy loam, one part equal proportions fibrous peat & dry cow-manure, & little sand. *Position*, pots or beds with shoots trained up rafters or round trellises. *Pot* or *plant*, Feb. or Mar. *Water* freely, Ap. to Oct. *Keep* almost dry remainder of time. *Syringe* daily, Ap. to Sept. *Prune* weak shoots in moderately close & remove tips of stronger ones in Feb. *Temp.*, Oct. to Mar., 50° to 55°; Mar. to Oct., 65° to 85°. *Propagate* by cuttings inserted in light soil or cocoanut-fibre refuse in temp. of 65° to 75° in spring.

Solanum (Potato, Egg Plant, Winter Cherry)—*Ord.* Solanacæ. *H* ardy & greenhouse annuals, half-hardy & hardy herbaceous perennials, & stove & greenhouse evergreen plants. **POTATO** (*S. tuberosum*): *H* ardy tuberous-rooted perennial. *Nat.* S. America. *Int.* 1597. *Ht.* 1 to 4 ft. *Varieties* cultivated innumerable. *Flowers*, lilac or white; *sum.* **CLASSIFICATION:** *Kidney*—oblong, white or coloured; *Ex.* Early Ashleaf (white), Early Rose (coloured). *Round*—roundish, white or coloured; *Ex.* Village Blacksmith (coloured), Imperator (white). *Pebble-shaped*—Flatish-round, white or coloured; *Ex.* Sutton's Satisfaction (white), Reading Russet (coloured). *Soil*, deep, rich well drained sandy or calcareous loam; or ordinary well tilled mould; both to be dug or trenched two spits deep, & decayed manure at the rate of one cart load per 5 sq. rods, placed between the first & second spit the previous autn. *Position*, sloping borders facing south, & sheltered from N. & N.E., for early sorts: open sunny parts of garden for main crops. *Plant* early sorts in Feb.; second early kinds in Mar.; late ones early in Ap. *Distances apart for rows*, 15 in. for early sorts; 2 ft. 6 in. for medium growers; 3 ft. 4 in. for robust growers. *Distances apart for "sets"*: 6 in. for early kinds; 12 in. for medium growers; 18 in. for robust ones. *Depth for planting*: 6 in. in heavy soils; 7 in. in light soils. *Quantities of Seed Required* $\frac{1}{4}$ peck for row 50 ft. long; 1 bushel for a row 250 ft. long; 24 to 34 heaped bushels for 1 acre. *Weight* per bushel: 53 lbs. striped; 56 lbs. heaped. *Average yield per acre*: 4 to 6 tons of early sorts; 5 to 8 tons of main-crop varieties. *Seed* or "*sets*": medium-sized tubers best; large tubers should be cut into 2 or 3 portions, & wounded parts coated with slaked lime; one shoot or "chat" only to be allowed to each tuber or portion of tuber, remainder to be rubbed off before planting; tubers to be placed on end in shallow boxes & exposed to light for week or so before planting. *Fertilizers*, etc.: (1) $3\frac{1}{2}$ lbs. kainit, $3\frac{1}{2}$ lbs. nitrate of soda, 1 lb. sulphate of iron, 7 lbs. superphosphate of lime per sq. rod, forked in when the shoots appear through the surface or if no stable manure was dug in the previous autn., apply the superphosphate along the

drills before planting, & the remaining ingredients as above advised. (Griffiths). (2) 15 loads of stable dung, $\frac{1}{2}$ cwt. guano, $\frac{1}{2}$ cwt. muriate of potash, 2 cwt. superphosphate of lime per acre; to be spread along bottom of drills prior to planting sets. This formula best suited for light soils. (3) 6 lbs. of native guano per sq. rod, sprinkled along drills before planted, or hoed in when shoots are 3 in. high. *General Cultural Details*: Fork or stir surface of soil when shoots are 3 in. high; earth up when 6 in.; lift when haulm assumes yellow tinge; store tubers in dark cool place for eating; expose those for seed to light until they become greenish, then store away. *Remedy for Disease*: Dissolve 6 lbs. of sulphate of copper in 16 galls. of water; slake 4 lbs. of fresh lime in 6 galls. of water in separate vessel, & when this has cooled add it slowly to copper solution, & stir well. Allow mixture to stand three days, then stir well & spray the foliage on first indication of disease at intervals of 10 days. **EGG PLANT** (*S. melongena*). Half hardy annual. *Nat.* Tropics. *Int.* 1597. *Ht.* 2 to 5 ft. *Varieties* several. *Flowers*, blue. *Fruit* egg-shaped, white, yellow, or purple. *Soil*, light, rich. *Position*, pots in sunny greenhouse, against south walls outdoors in sum. **POT CULTURE**: Sow seeds $\frac{1}{2}$ in. deep in temp. 80° in Feb. *Place* seedlings singly in 3-in. pots in Mar. & in 6-in. pots in May. *Water* freely & grow throughout in temp. 75° to 85°. *Gather* fruit when full colour is attained. **OUTDOOR CULTURE**: Sow seeds & grow seedlings in pots as advised in previous case. *Plant* out in June. *Train* shoots thinly to wall as they grow. **WINTER CHERRY** (*S. capsicastrum* & *S. pseudo-capsicum*).—Greenhouse evergreen berry-bearing shrubs. *Nat.* Madeira. *Int.* 1596. *Ht.* 1 to 4 ft. *Species* cultivated, 2; hybrids several. *Flowers*, white. *Fruit*, round or oval, scarlet; winter. *Compost*, equal parts leaf-mould, loam, & silver sand. *Pot*, Feb. or Mar. *Sow* seeds $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75° in Feb. or Mar. *Transplant* singly in 2-in. pots when 1 in. high. *Nip* off point of main shoot when 3 in. high. *Transfer* to 3 in. pots when new shoots form. *Harden* in cold frame during May. *Plant* 15 in. apart each way in rich soil in sunny position outdoors in June. *Nip* off points of side shoots when 3 in. long. *Lift*, pot, & place in temp. 55° to 65° in Sept. *Apply* stimulants once or twice weekly, Sept. to Feb. *Prune* shoots of old plants to within 2 in. of base in Feb. When new shoots form repot & grow in temp. 65° to 75° until June, then place in cold frame, or plant outdoors as advised for seedlings. *Insert* cuttings 2 in. long in light soil in temp. 65° to 75°. *Place* singly in 3-in. pots when rooted. *Transfer* to $\frac{1}{2}$ -in. size in May. *Grow* in cold frame or plant out & lift in Sept. **S. JASMINOIDES**.—Half-hardy deciduous twiner. *Nat.* S. America. *Int.* 1838. *Ht.* 10 to 20 ft. *Flowers*, bluish white; sum. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, in pots, tubs, or beds with shoots trained up rafters of sunny cold greenhouse; or in bed against a south wall outdoors, S. & S.W. of England only. *Pot* or plant, Mar. *Prune* straggling shoots moderately, Jan. or Feb. *Water* freely in sum.; moderately other times. **S. CRISPUM**: Hardy flowering shrub. *Nat.* Chili. *Int.* 1824. *Ht.* 12 to 14 ft. *Flowers*, bluish purple; sum. *Compost*, same as for *S. jasminoides*. *Plant*, Mar. or Ap. *Position*, against south walls in S. of England only. *Prune* shoots in closely in Oct. *Protect* with straw or bracken in severe weather. **ORNAMENTAL-LEAVED SPECIES** (*S. robustum*, *S. macranthum*, *S. Warszewiczii*, etc.): Half-hardy perennials. *Nat.* Brazil. *Ht.* 2 to 4 ft. *Flowers*, white or violet; sum. *Leaves*, very large. *Stems* more or less prickly. *Soil*, ordinary. *Position*, sunny beds or borders. *Plant*, June. *Lift*, Sept. & place in temp. 55° to 65° until following June. *Best plants* ensured by sowing seeds annually in light soil in temp. 65° to 75° in Jan. or Feb., or by inserting cuttings in similar soil & temp. in Feb. or Mar. *Propagate* the potato by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. 65° to 75°, Jan. to Ap., transplanting seedlings when 1 in. high singly in 2-in. pots, then in $\frac{1}{2}$ -in. pots, keeping in greenhouse until May, planting outdoors, lifting tubers in Sept., and storing them in sand in frost proof place until following Mar., then planting outdoors; by division of the tuber into as many

portions as there are latent eyes in Feb. or Mar.; by cuttings of shoots, 2 to 3 in. long, removed with a heel from the tuber, & inserted in light soil in temp. 55° to 65°, Ap.; by grafting portion of one tuber on another. Egg plant & winter cherry by seeds & cuttings as already described. *S. jasminoides* by cuttings of young shoots inserted in sandy peat in temp. 65° to 75° in spring.

Soldanella (Blue Moon-wort).—*Ord.* Primulacæ. Hardy perennial herbs. *Nat.* Switzerland. *Int.* 1656. *Ht.* 2 to 3 in. *Species* cultivated, 4. *Flowers*, violet, blue, lilac, purple; Ap. & May. *Compost*, equal parts peat & loam & sharp sand. *Position*, sheltered open moist rockery. *Plant*, Mar. or Ap. *Mulch* surface of soil in dry weather with layer of cocoanut-fibre refuse. *Propagate* by seeds sown in well drained pans filled with equal parts sandy loam, peat, & sand, & lightly covered with fine soil placed in a cold shady frame, Mar. or Ap.; division of plants in Mar. or Ap.

Soldier-wood (*Calliandra purpurea*)—see *Calliandra*.

Soldier's herb (*Piper angustifolium*)—see *Piper*.

Soldier's Yarrow (*Stratiotes aloides*)—see *Stratiotes*.

Solidago (Golden Rod).—*Ord.* Compositæ. Hardy herbaceous perennial. *Nat.* Europe (Britain), N. America. *Int.* 1648. *Ht.* 6 in. to 6 ft. *Species* cultivated, about 43. *Flowers*, yellow; July to Oct. *Soil*, ordinary. *Position*, sunny or shady borders or banks. *Plant*, Oct. to Ap. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by division of roots, Oct. to Ap.

Solid rooted Fume-wort (*Corydalis solida*)—see *Corydalis*.

Sollya (Australian Bluebell Creeper).—*Ord.* Pittosporacæ. Greenhouse evergreen twining shrubs. *Nat.* Australia. *Int.* 1830. *Ht.* 4 to 6 ft. *Species* cultivated, 2. *Flowers*, blue; May to Sept. *Compost*, two parts peat, one part turfy loam & half a part silver sand. *Position*, well drained pot; or beds with shoots trained to wire trellis or up rafters or pillars. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, Ap. to Aug. *Shade* not necessary. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings of shoots inserted in sand under bell-glass in temp., 65° to 75° in spring or sum.

Solomon's Seal (*Polygonatum officinalis*)—see *Polygonatum*.

Sonerilla.—*Ord.* Melastomacæ. Stove perennials. Flowering & orn. foliage. *Nat.* E. Indies. *Int.* 1848. *Ht.* 6 to 12 in. *Species* cultivated, about 5. *Flowers*, purple, mauve, rose, lilac; Ap. to Nov. *Leaves*, ovate or lanceolate, green, or spotted with silvery white. *Compost*, equal parts fibry peat, chopped sphagnum, charcoal, & sand. *Position*, well drained pots or pans fully exposed to light. *Pot*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Shade* from sun & moist atmosphere highly essential. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown in above compost, & lightly covered with fine mould, Jan. to Ap. in a temp. of 75° to 85°; cuttings inserted in small pots under bell-glass in temp. 75° to 85°, Jan. to May.

Sophora (Chinese Japan Pagoda Tree, New Zealand Laburnum).—*Ord.* Leguminosæ. Greenhouse & hardy evergreen & deciduous trees & shrubs. Flowering & orn. foliage. *Nat.* Sandwich Islands, Japan, China, Chili, New Zealand, Mexico, N. America, Neilgherries. *Int.* 1739. *Ht.* 4 to 40 ft. *Species* cultivated, 4 hardy; 3 greenhouse. *Flowers*, yellow, purple, cream, violet; May, June, & Oct. *Leaves*, feather-shaped. *Habit* of *S. japonica pendula*, weeping, graceful. **CULTURE OF GREENHOUSE SPECIES** (*S. macrocarpa*, etc.): *Compost*, two parts loam, one of leaf-mould, & little sand. *Pot*, Oct. to Feb. *Position*, in pots or tubs in light airy part of greenhouse, Oct. to May; outdoors, May to Oct. *Water* freely, Ap. to Oct.; very little afterwards. *Prune*, Feb. or Mar. *Temp.*, Oct. to Ap., 40° to 45°; Ap. to May, 50° to 65°. **CULTURE OF HARDY SPECIES** (*S. japonica*, etc.): *Soil*, deep rich loam. *Position*, open sheltered lawns for *S. japonica*; sunny walls for other species. *Plant*, Oct. to Feb. *Prune* intc shape, Jan. or Feb. *Protect* kinds grown against

walls in severe weather by mats, straw, or bracken. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in temp. of 55° in Ap.; cuttings inserted in sandy soil in temp. of 55° in Mar. *S. japonica pendula* & *S. j. p. variegata* by grafting on common species in Mar.

Sophronitis (Scarlet-flowered Orchid).—*Ord.* Orchidaceæ. Dwarf evergreen epiphytal orchids. *Nat.* Organ Mountains, Mexico. *Int.* 1837. *Ht.* 3 to 6 in. *Species* cultivated, about 4. *Flowers*, red, cream, crimson, violet; Nov. to Mar. *Compost*, equal parts peat, sphagnum moss, & charcoal. *Position*, shallow small pans or baskets suspended from roof. *Pot.*, Feb. or Mar. *Shade* from sun most essential. *Water* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Ap., 55° to 65° ; Ap. to Oct., 65° to 75° . *Propagate* by division of pseudo-bulbs, Feb. or Mar.

Sorcerer's Garlic (*Allium molly*)—see *Allium*.

Sorghum (Millet Grass).—*Ord.* Graminaceæ. Hardy perennial. *Nat.* Mediterranean Region. *Int.* date unknown. *Ht.* 2 to 10 ft. *Species* cultivated, 1. *Inflorescence*, purplish; borne in dense panicles; autn. *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Propagate* by division, Mar.

Sorrel (*Rumex acetosa*)—see *Rumex*.

Sorrel-tree (*Andromeda arborescens*)—see *Andromeda*.

South American Butterfly Plant (*Oncidium papilio*)—see *Oncidium*.

South American Holly (*Ilex paraguayensis*)—see *Ilex*.

Southern Blue Sage (*Salvia azurea*)—see *Salvia*.

Southern Fox Grape (*Vitis vulpina*)—see *Vitis*.

Southern Holy Grass (*Hierochloë australis*)—see *Hierochloë*.

Southern Pine (*Pinus australis*)—see *Pinus*.

Southern Prickly Ash (*Xanthoxylon carolinianum*)—see *Xanthoxylon*.

Southern Red Lily (*Lilium Catesbaei*)—see *Lilium*.

Southern-wood (*Artemisia abrotanum*)—see *Artemisia*.

Sow-bread (*Cyclamen europæum*)—see *Cyclamen*.

Spanish Arbour-vine (*Ipomœa tuberosa*)—see *Ipomœa*.

Spanish Bayonet (*Yucca aloifolia*)—see *Yucca*.

Spanish Broom (*Spartium junceum*)—see *Spartium*.

Spanish Calalu (*Phytolacca octandra*)—see *Phytolacca*.

Spanish Carnation (*Poinciana pulcherrima*)—see *Poinciana*.

Spanish Chestnut (*Castanea vesca*)—see *Castanea*.

Spanish Dagger (*Yucca aloifolia*)—see *Yucca*.

Spanish Fennel-flower (*Nigella hispanica*)—see *Nigella*.

Spanish Furze (*Genista hispanica*)—see *Genista*.

Spanish Hyacinth (*Hyacinthus amethystinus*)—see *Hyacinthus*.

Spanish Jasmine (*Jasminum grandiflorum*)—see *Jasminum*.

Spanish Juice-plant (*Glycyrrhiza glabra*)—see *Glycyrrhiza*.

Spanish Moss (*Tillandsia usneoides*)—see *Tillandsia*.

Spanish Nut (*Corylus avellana barceloniensis*)—see *Corylus*.

Spanish Plane Tree (*Platanus acerifolia hispanica*)—see *Acer*.

Spanish Potato (*Batatas edulis*)—see *Batatas*.

Spanish Rest-harrow (*Ononis hispanica*)—see *Ononis*.

Spanish Silver Fir (*Picea pinsapo*)—see *Picea*.

Spanish Squill (*Scilla campanulata*)—see *Scilla*.

Spanish Traveller's Joy (*Clematis cirrhosa*)—see *Clematis*.

Spanish-tuft (*Thalictrum aquilegifolium*)—see *Thalictrum*.

Spanish Wild Cucumber (*Clematis cirrhosa*)—see *Clematis*.

Sparaxis (African Harlequin Flower).—*Ord. Iridaceæ.* Half-hardy bulbous plants. *Nat. S. Africa. Int.* 1758. *Ht.* 6 in. to 2 ft. *Species* cultivated, 5; varieties many. *Flowers*, white, yellow, lilac purple, crimson, orange; fragrant; Ap. to Aug. **OUTDOOR CULTURE:** *Soil*, light, rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow-manure. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pots*, 4½ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with coconut-fibre refuse in cold frame or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Sparmannia (African Hemp).—*Ord. Tiliaceæ.* Greenhouse evergreen shrub. *Nat. S. Africa. Int.* 1790. *Ht.* 10 to 20 ft. *Species* cultivated, 1; variety 1. *Flowers*, white; single & double; sun. *Compost*, two parts loam, one part peat, & little sand. *Position*, pots in light airy greenhouse, Sept to June; sunny spot outdoors remainder of time. *Pot*, Feb. or Mar. *Prune* moderately close, Nov. to Dec. *Water* copiously, Ap. to Oct.: moderately afterwards. *Apply* stimulants, Ap. to Sept. *No* shade or syringing required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by cuttings inserted singly in small pots filled with sandy soil under bell-glass in temp. 55° to 65°, spring or sun.

Sparrow Grass (*Asparagus officinalis*)—see *Asparagus*.

Spartium (Rush or Spanish Broom).—*Ord. Leguminosæ.* Hardy deciduous flowering shrub. *Nat. Mediterranean Region, Canary Islands. Int.* 1548. *Ht.* 6 to 10 ft. *Species* cultivated, 1; variety 1. *Flowers*, yellow, single & double, fragrant; June to Oct. *Soil*, ordinary. *Position*, sunny open borders or dry banks. *Plant*, Oct. to Mar. *Propagate* by seeds sown ½ in. deep in drills in fine soil in sunny position outdoors, autn. or spring; cuttings of young shoots inserted in sandy soil under bell-glass or in cold frame in sum.

Spatium (*Lewisia rediviva*)—see *Lewisia*.

Spear-flower (*Ardisia crenulata*)—see *Ardisia*.

Spear-leaved Bell-flower (*Campanula lanceolata*)—see *Campanula*.

Spear-leaved Lily (*Lilium lancifolium*)—see *Lilium*.

Spear-leaved Plantain Lily (*Funkia lanceolata*)—see *Funkia*.

Spear Mint (*Mentha viridis*)—see *Mentha*.

Spectral-flowered Orchid (*Masdevallia chimæra*)—see *Masdevallia*.

Specularia (Venus's Looking Glass, Corn Violet).—*Ord. Campanulaceæ.* Hardy annuals. *Nat. Europe (Britain), N. America. Int.* (Venus's Looking Glass) 1596. *Ht.* 3 to 20 in. *Species* cultivated, 4. *Flowers*, lilac, purplish blue; sun. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds in Ap. thrily ¼ in. deep in patches or lines where required to grow. *Thin* seedlings when 1 or 2 in. high to 3 to 6 in. apart. *Support* plants with small twigs when 3 to 6 in. high.

Speedwell (*Veronica officinalis*)—see *Veronica*.

Spergula pilifera—see *Sagina procumbens*.

Sphenogyne.—*Ord. Compositæ.* Half-hardy annual. *Nat. Mexico. Int.* 1836. *Ht.* 10 to 12 in. *Species* cultivated, 1 (*S. speciosa*). *Flowers*, yellow, brown; July to Sept. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds, Feb. or Mar. in ordinary light mould in pots, pans, or boxes in temp. 55° to 65°, & transplant seedlings when an inch high to 3 in. apart in shallow boxes; place in cold frame in Ap., harden off & plant outdoors, May or June. *Also* sow seeds in open ground in Ap. where required to grow, & thin seedlings to 4 or 6 in. apart when 1 to 6 in. high.

Spice-bush (*Laurus Benzoin*)—see *Laurus*.

Spider Fern (*Pteris serrulata*)—see *Pteris*.

Spider-flower (*Cleome lutea*)—see *Cleome*.

Spider Orchis (*Orchis arachnites*)—see *Orchis*.

Spigelia (Carolina Pink, Maryland Pink-root, Worm Grass).—*Ord.* Loganiaceæ. Stove annuals or perennials & hardy herbaceous perennials. *Nat.* Brazil, Mexico, N. America. *Int.* 1694. *Ht.* 6 to 18 in. *Species* cultivated, 1 stove annual; 1 stove perennial; 1 hardy herbaceous perennial. *Flowers*, scarlet, red, purplish; sum. **CULTURE OF STOVE SPECIES** (*S. splendens*, etc.): *Compost*, equal parts loam, peat, & sand. *Position*, well drained pots in light part of stove. *Pot.* Jan. to Feb. *Water* freely, Ap. to Sept.; moderately other times. *Syringe* daily, Mar. to Sept. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. **CULTURE OF HARDY SPECIES** (*S. marilandica*): *Soil*, equal parts loam, leaf-mould, peat, & sand. *Position*, partially shady border containing 2 ft. in depth of above compost. *Plant*, Mar. or Ap. *Water* copiously during sum. *Propagate* annual species by seeds sown in temp. of 75° to 85°, Jan. to Ap.; perennial species by cuttings inserted in sandy peat under bell-glass in temp. 75° to 85° in spring; hardy perennial species by division of roots, Mar. or Ap.

Spike Oil-plant (*Lavandula spica*)—see *Lavandula*.

Spiked Horned-Rampion (*Phyteuma spicatum*)—see *Phyteuma*.

Spiked Louse-wort (*Pedicularis comosa*)—see *Pedicularis*.

Spiked Sea Lavender (*Statice spicata*)—see *Statice*.

Spikenard Oil-plant (*Andropogon Schœnanthus*)—see *Andropogon*.

Spinach (*Spinacia oleracea*)—see *Spinacia*.

Spinach Beet (*Beta Brasiliensis* & *B. cicla*)—see *Beta*.

Spinacia (Spinach).—*Ord.* Chenopodiaceæ. Hardy annual. Esculent-leaved vegetable. *Nat.* S. E. Europe. *Int.* 1568. *Ht.* 12 to 18 in. *Species* cultivated 1; varieties 2. *Flowers*, green. *Soil*, deep, rich moist ordinary for sum. spinach; rich, moderately dry for winter kind. *Position*, sunny. *Sow* seeds of sum. spinach at intervals of a fortnight, Feb. to Aug., in drills 1 in. deep & 12 in. apart; winter spinach, Aug. & Sept. in drills 1 in. deep & 15 in. asunder. *Thin* winter spinach to 6 in. apart when three leaves form. *Fertilizer*: (1) 1½ lbs. kainit, 1½ lbs. sulphate of soda; 1½ lbs. sulphate of ammonia; 2 lbs. superphosphate per sq. rod, applied when plants are 2 in. high. (2) Native guano, applied at the rate of 10 lbs. per sq. rod when plants are 2 in. high.

Spindle-tree (*Euonymus europæus*)—see *Euonymus*.

Spiny Bear's-breech (*Acanthus spinosus*)—see *Acanthus*.

Spiræa (Meadow Sweet).—*Ord.* Rosaceæ. Hardy deciduous and evergreen flowering shrubs & herbaceous perennials. *Nat.* Europe (Britain), Japan, N. America, Siberia, China, Cashmere, & Mexico. *Int.* (foreign species) 1640. *Ht.* 1 to 6 ft. *Species* cultivated, 13 hardy herbaceous; about 45 hardy deciduous shrubs; 5 hardy evergreen shrubs. *Flowers*, white, rose, red; fragrant; May to Oct. **CULTURE OF HARDY HERBACEOUS SPECIES** (*S. alipendula*, *S. palmata*, *S. aruncus*, *S. ulmaria*, etc.): *Soil*, ordinary rich, well manured. *Position*, partially shady or sunny borders; margins of streams, etc. for *S. ulmaria*. *Plant*, Oct., Nov., Mar. or Ap. *Top-dress* annually in Ap. with decayed manure. *Water* copiously in dry weather. *Lift*, divide, & re-plant every three or four years. **CULTURE OF SHRUBBY SPECIES** (*S. ariaefolia*, *S. Douglasii*, *S. prunifolia* fr. pl., etc.): *Soil*, good ordinary or loamy. *Position*, open sunny borders or shrubberies. *Plant*, Sept. to Mar. *Prune* straggly shoots moderately close directly after flowering. **CULTURE OF S. JAPONICA**: *Compost*, equal parts loam & leaf-mould. *Pot* roots, Oct. or Nov., singly in 5 or 6 in. pots. *Place* in cold frame until required for forcing, or remove to ordinary heated greenhouse in Jan., cold house in Feb. *Temp.* for forcing 55° to 65°. *Water* moderately when first brought into forcing or greenhouse; freely when growth begins. *Apply* weak stimulants—¼ oz. of guano to gall.

of water—when flower spikes show. *Remove* to cold frame after flowering & plant out in sunny position in June. Let plants remain thus for two years, then lift, place in pots, & use for forcing. *Plants* will not flower freely two years in succession when grown in pots. *Propagate* herbaceous kinds by division of the roots, Oct. to Mar; shrubby ones by cuttings of young shoots inserted in sandy soil under hand-light or in frame in shade, sum.; also by offsets removed & planted in autn.

Spire Lily (*Galtonia candicans*)—see *Galtonia*.

Spire-reed (*Arundo phragmites*)—see *Arundo*.

Spleenwort (*Asplenium trichomanes*)—see *Asplenium*.

Splendid Flamingo Plant (*Anthericum magnificum*)—see *Anthericum*.

Spoon-wood-tree (*Kalmia latifolia*)—see *Kalmia*.

Spoonwort (*Cochlearia officinalis*)—see *Cochlearia*.

Spotted Alder (*Hamamelis virginica*)—see *Hamamelis*.

Spotted Dead-Nettle (*Lamium maculatum*)—see *Lamium*.

Spotted Golden Borage (*Arnebia echinoides*)—see *Arnebia*.

Spotted Indian Crocus (*Pleione maculata*)—see *Pleione*.

Spotted Lady's Slipper (*Cypripedium guttatum*)—see *Cypripedium*.

Spotted Laurel (*Aucuba japonica*)—see *Aucuba*.

Spotted-leaved Arum Lily (*Richardia maculata*)—see *Richardia*.

Spotted-leaved Winter-green (*Pyrola maculata*)—see *Pyrola*.

Spotted Lily (*Lilium speciosum*)—see *Lilium*.

Spotted Monkey-flower (*Mimulus guttatus*)—see *Mimulus*.

Spotted Orchis (*Orchis maculata*)—see *Orchis*.

Spotted Sun-rose (*Helianthemum guttatum*)—see *Helianthemum*.

Spraguea.—*Ord.* Portulacaceæ. Half-hardy perennial herb. *Nat.* California. *Int.* 1858. *Ht.* 1 to 2 in. *Species* cultivated, 1. *Flowers*, white, purple; July to Oct. *Soil*, ordinary. *Position*, edges of sunny well drained borders or rockeries. *Plant*, Ap. or May. *Propagate* by seeds, sown Feb. or Mar., in well drained pots or pans in above compost, in temp. of 55° to 60°; transplanting seedlings an inch apart in 3-in. pots when large enough to handle, afterwards hardening off in cold frame & planting out in May; cuttings of shoots inserted in sandy peat under bell-glass in temp. of 55° to 65° in spring.

Spread Eagle Orchid (*Oncidium carthaginense*)—see *Oncidium*.

Spreading Bell-flower (*Campanula patula*)—see *Campanula*.

Spreading Sage (*Salvia paucens*)—see *Salvia*.

Sprekelia (Jacobean Lily).—*Ord.* Amaryllidaceæ. Stove deciduous bulb. *Nat.* Guatemala. *Int.* 1658. *Ht.* 6 to 9 in. *Species* cultivated, 1: varieties 2. *Flowers*, crimson, white, green; Ap. to June. *Compost*, two parts turfy loam, one part river sand, & a few crushed bones. *Position*, well drained pots in light part of stove. *Pot*, Feb., burying bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* large bulbs annually & repot every three or four years only. *Temp.*, Feb. to Sept., 65° to 75°; Sept. to Feb., 50° to 55°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings singly in 2-in. pots, & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs. *Seedlings* are six to seven years before they flower.

Spring Beauty (*Claytonia virginica*)—see *Claytonia*.

Spring Bell (*Sisyrinchium grandiflorum*)—see *Sisyrinchium*.

Spring Bitter Vetch (*Orobis vernus*)—see *Orobis*.

Spring Crocus (*Orocus vernus*)—see *Crocus*.

Spring Cyclamen (*Cyclamen vernum*)—see *Cyclamen*.

Spring-flowering Squill (*Scilla verna*)—see *Scilla*.

- Spring Gentian (*Gentiana verna*)—see Gentian.
 Spring Meadow-Saffron (*Bulbocodium vernum*)—see Bulbocodium.
 Spring Satin-flower (*Sisyrinchium grandiflorum*)—see Sisyrinchium.
 Spring Snowflake (*Leucojum vernum*)—see Leucojum.
 Spring Star-flower (*Trilepis uniflora*)—see Trilepis.
 Spruce (*Abies excelsa*)—see Abies.
 Spruce Pine (*Abies excelsa*)—see Abies.
 Spurge Flax (*Daphne mezereum*)—see Daphne.
 Spurge Laurel (*Daphne laureola*)—see Daphne.
 Spurge Nettle (*Jatropha urens stimulosa*)—see Jatropha.
 Spurge Olive-tree (*Daphne mezereum*)—see Daphne.
 Spurious Iris (*Iris spuria*)—see Iris.
 Square-stalked Passion-flower (*Passiflora quadrangularis*)—see Passiflora.
 Squill (*Scilla bifolia*)—see Scilla.
 Squirrel-corn (*Dicentra canadensis*)—see Dicentra.
 Squirrel-tail Grass (*Hordeum jubatum*)—see Hordeum.
 Squirting Cucumber (*Momordica elaterium*)—see Momordica.
 Staff-tree (*Celastrus scandens*)—see Celastrus.
 Staff-vine (*Celastrus scandens*)—see Celastrus.
 Stag's-horn Fern (*Platycerium alcicorne*)—see Platycerium.
 Stag's-horn Saxifrage (*Saxifraga ceratophylla*)—see Saxifraga.
 Stag's-horn Sumach (*Rhus typhina*)—see Rhus.
 Standing Cypress (*Ipomopsis elegans*)—see Ipomopsis.
 Stanhopea.—Ord. Orchidaceæ. Stove epiphytal orchids. *Nat.* Tropical America. *Int.* 1824. *Ht.* 1 to 2 ft. *Species* cultivated, about 36; varieties many. *Flowers*, yellow, red, white, crimson, brown, purple, orange; *sum.* *Compost*, two parts fresh sphagnum moss, one part lumps of turfy peat & charcoal. *Position*, teak baskets suspended from roof. *Plant*, Feb., Mar. or Ap. *Water* copiously, Mar. to Sept.; moderately, Sept. to Nov.; keep almost dry remainder of year. *Syringe* foliage daily, *sum.* *Shade* from sun. *Temp.*, May to Sept., 70° to 85°; Sept. to May, 60° to 70°. *Propagate* by division of pseudo-bulbs in spring.
 Stapelia (Carrion Flower, Toad Flower, Star-fish Flower).—Ord. Asclepiadaceæ. Greenhouse succulent-stemmed plants. *Nat.* S. Africa. *Int.* 1790. *Ht.* 2 in. to 1 ft. *Species* cultivated, about 100. *Flowers*, purple, brown, yellow, red, flesh, violet, green; disagreeably scented; *sum.* *Compost*, two parts sandy loam, one part broken rubbish or old mortar, & one part sand. *Position*, well drained pots close to glass in light sunny greenhouse. *No shade* required. *Pot*, Mar. or Ap. *Water* moderately, Ap. to Oct.; keep nearly dry remainder of year. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 55° to 75°. *Repot* only when absolutely necessary. *Top-dress* annually in Mar. with compost of two parts well decayed cow dung & one part sandy loam. *Propagate* by cuttings of stems exposed to air on shelf in greenhouse for 2 or 3 days, then inserted singly in 2-in. pots half filled with drainage, remainder with sand & brick rubbish; spring.
 Staphylea (Bladder Nut, St. Anthony's Nut, Colchican Bladder Nut, Mexican Bladder Nut).—Ord. Sapindaceæ. Hardy deciduous flowering shrubs. *Nat.* S. Europe, N. America, Caucasus, Japan. *Int.* 1640. *Ht.* 3 to 12 ft. *Species* cultivated, 5. *Flowers*, white; May to Aug. *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune* straggling shoots moderately close immediately after flowering. *CULTURE OF S. COLCHICA FOR FORCING*: *Compost*, two parts sandy loam, one part leaf-mould. *Pot*, Oct. to Jan. *Place* in sheltered position outdoors, or in cold frame until Jan., then remove into forcing house, or end of Jan. into cold greenhouse. *Temp.*, 65° to 75°. *Water* moderately when first placed in heat, afterwards

more freely. *Syringe* daily until leaves expand. *Transfer* to cold frame after flowering. *Harden* & stand outdoors, May to Oct. *Propagate* by seeds sown in sandy soil in sheltered position outdoors in Sept. or Oct.; cuttings of firm shoots, 6 to 8 in. long, inserted in sandy soil in cold frame or in sheltered corner outdoors in Sept.; layering shoots, Sept. or Oct.; suckers removed & planted, Oct. to Feb.

Star Anise (*Illicium anisatum*)—see *Illicium*.

Star Aniseed-tree (*Illicium anisatum*)—see *Illicium*.

Starch Hyacinth (*Muscari racemosum*)—see *Muscari*.

Star Capsicum Nightshade (*Solanum capsicastrum*)—see *Solanum*.

Star-fish-flower (*Stapelia asierias*)—see *Stapelia*.

Star-flower (*Trientalis europæa*)—see *Trientalis*.

Star-flowered Squill (*Scilla amœna*)—see *Scilla*.

Star Glory (*Ipomœa coccinea*)—see *Ipomœa*.

Star Grass (*Hypoxis erecta*)—see *Hypoxis*.

Star Hyacinth (*Scilla amœna*)—see *Scilla*.

Star Pine (*Pinus pinaster*)—see *Pinus*.

Star Windflower (*Anemone stellata*)—see *Anemone*.

Star-wort (*Aster amellus*)—see *Aster*.

Starry-flowered Hydrangea (*Hydrangea stellata*)—see *Hydrangea*.

Starry Pincushion-flower (*Asterocephalus stellatus*)—see *Asterocephalus*.

Starry Saxifrage (*Saxifraga stellaris*)—see *Saxifraga*.

Statice (Sea Lavender, Sea Pink).—*Ord.* Plumbaginacæ. Green house evergreens & half hardy & hardy herbaceous perennials. *Nat.* Europe (Britain), N. Africa, Canary Islands, Siberia, Levant, Cape of Good Hope, Carolina, Turkestan, China. *Int.* 1688. *Ht.* 6 in. to 2 ft. *Species* cultivated, 9 greenhouse evergreens; 30 half-hardy herbaceous; 40 hardy herbaceous; 2 hardy annuals. *Flowers*, blue, purple, yellow, pink, white, violet; *Ap.* to Sept. *CULTURE OF GREENHOUSE SPECIES* (*S. incana*, *S. profusa*, etc.): *Compost*, two parts sandy fibrous loam, one part fibrous peat, & one part sand. *Pot*, Mar. or Ap. *Position*, light airy sunny greenhouse, Sept. to May; cold frame, May to Sept. *Water* freely, Ap. to Sept.; moderately afterwards. *Apply* weak stimulants occasionally in sum. to healthy established plants. *Temp.*, Sept. to Ap., 40° to 50°; Ap. to May, 55° to 65°. *Good* drainage in pots indispensable. *CULTURE OF HARDY SPECIES* (*S. latifolia*, *S. limonium*, etc.): *Soil*, sandy loam. *Position*, sunny rockeries or borders. *Plant*, Mar. or Ap. *Top-dress* annually with decayed manure & loam in Ap. *CULTURE OF ANNUAL SPECIES* (*S. Suworwi*, *S. spicata*): *Soil*, ordinary sandy. *Position*, sunny borders or rockeries. *Sow* seeds in well drained pots filled with sandy loam, cover slightly with fine soil, & place in temp. of 55° to 65°, Feb. or Mar. *Transplant* when large enough to handle; harden off & plant outdoors in May. *Propagate* by seeds sown as above; cuttings inserted singly in 2-in. pots, well drained, & filled with sandy soil, & placed in temp. 55° to 65° in spring; division of roots, Mar. or Ap.

Stauntonia.—*Ord.* Berberidacæ. Hardy evergreen climbing shrub. *Nat.* China, Japan. *Int.* 1876. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Flowers*, white; fragrant; Ap. *Soil*, deep sandy loam. *Position*, S. wall or trellis. *Plant*, Sept., Oct., Mar. or Ap. *Prune* trailing shoots, not required to produce flowers following season, back to two-thirds of their length in aut. *Propagate* by cuttings of firm young shoots inserted in sandy soil under bell-glass in shady position outdoors in sum.

Steep Grass (*Pinguicula vulgaris*)—see *Pinguicula*.

Steeple Bells (*Campanula pyramidalis*)—see *Campanula*.

Stellaria (Golden Chickweed, Golden Stitchwort).—*Ord.* Caryophyllacæ. Hardy perennial. *Orn.* foliage. *Nat.* Europe (Britain), Siberia, W.

Asia. *Ht.* 3 to 6 in. *Species* cultivated, 1. *Leaves*, narrow; pale golden yellow. *Soil*, ordinary. *Position*, edgings to or lines in carpet b ds. *Plant*, Ap. to June. & more flower stems directly they form to insure dwarf growth. *Propagate* by division of roots in spring.

Stemless Lady's Slipper (*Cypripedium acaule*)—see *Cypripedium*.

Stephanotis (Clustered Wax-flower, Madagascar Chaplet Flower, Madagascar Jasmine).—*Ord.* Asclepiadaceæ. Stove evergreen twining shrubs. *Nat.* Madagascar. *Int.* 1830. *Ht.* 10 to 15 ft. *Species* cultivated, 2. *Flowers*, white; fragrant; more or less all the year round. *Compost*, equal parts good light fibrous loam or peat, & one part equal proportions leaf mould, well decayed manure, & coarse silver sand. *Position*, pots, tubs, or beds, well drained, with shoots trained to wire trellis, or up rafters of stove. *Pot* or plant, Feb. or Mar. *Shade* from sun. *Water* copiously, Mar. to Oct.; moderately afterwards. *Syringe* daily, Mar. to Oct., except when in bloom. *App'y* stimulants once a week to healthy established plants between May & Sept. *Prune* straggling shoots in moderately close, & thin out weak shoots freely, Jan. or Feb. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by cuttings of the shoots of the previous year's growth, inserted singly in 2-in. pots, filled with equal parts sand, peat, & loam, placed under bell-glass in temp. 65° to 75° in spring.

Sterculia (Sultan's Parasol).—*Ord.* Sterculiaceæ. Stove and Greenhouse evergreen trees. *Nat.* Malabar, W. Australia, S. America, E. Indies, New Guinea. *Int.* 1787. *Ht.* 10 to 30 ft. *Species* cultivated, 6 stove; 4 greenhouse. *Flowers*, purple, yellow, red; sum. *Compost*, equal parts loam, peat, & sand. *Position*, pots in warm moist stove or greenhouse. *Pot*, Feb. or Mar. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65° for stove species; Mar. to Sept., 55° to 65°; Sept. to Mar., 45° to 55° for greenhouse species. *Water* freely in sum; moderately other times. *Syringe* stove species daily, Ap. to Oct. *Propagate* by cuttings of firm shoots inserted in sand under bell-glass in temp. of 65° to 75°, spring or sum.

Sternbergia (Winter Daffodil, Yellow Star-flower).—*Ord.* Amaryllidaceæ. *Nat.* Central Europe. *Int.* 1596. *Ht.* 2 to 6 in. *Species* cultivated, 2; varieties several. *Flowers*, yellow; autn. *Leaves* produced usually late in autn. or early in spring, after flowering. *Soil*, deep, fairly dry, good ordinary. *Position*, sunny sheltered border. *Plant* bulbs, Oct. or Nov., 4 in. deep, & 2 or 3 in. apart. Plant surface of soil over bulbs with *Saxifraga hypnoides* or *Sedum aere* to form green carpet & afford protection. *Leaf* & replant when bulbs show signs of deterioration. *Propagate* by offsets removed & planted, Oct. or Nov.

Stevensonia.—*Ord.* Palmaceæ. Stove orn. foliage palm. *Nat.* Seychelles. *Int.* 1865. *Ht.* 10 to 20 ft. *Species* cultivated, 1. *Leaves*, once divided, wedge-shaped, green. *Compost*, two parts fibrous peat, one part equal proportions charcoal, turfy loam, & sand. *Position*, moist shady part of stove. *Pot*, Feb. or Mar. *Syringe* freely twice daily, Feb. to Oct.; once daily afterwards. *Water* freely at all times. *Shade* & moist atmosphere essential. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 65° to 75°. *Propagate* by seeds sown 1 in. deep in peat & loam in small pots in temp. 75° to 85°, spring.

Stiff Dogwood (*Cornus stricta*)—see *Cornus*.

Stigmaphyllon (Golden Vine).—*Ord.* Malpighiaceæ. Stove evergreen climbing shrubs. *Nat.* Tropical America. *Int.* 1796. *Ht.* 3 to 20 ft. *Species* cultivated, about 7. *Flowers*, yellow; May to Sept. *Compost*, equal parts loam, leaf-mould, peat, & sand. *Position*, well drained pots with shoots trained up roof or round trellis. *Pot*, Feb. or Mar. *Prune* away weak growths & shorten strong ones moderately, Jan. *Water* freely, Mar. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of firm shoots inserted

singly in small pots of sandy soil under bell-glass in temp. 65° to 75°, spring or sum.

Stinging Bush (*Jatropha urens*)—see *Jatropha*.

Stingless Nettle (*Pilea muscosa*)—see *Pilea*.

Stinking Gladwyn (*Iris foetidissima*)—see *Iris*.

Stipa (Feather Grass).—*Ord.* Graminaceæ. **Hardy** perennial flowering grasses. *Nat.* Europe, Australia. *Int.* date unknown. *Ht.* 2 to 3 in. *Species* cultivated, about 6. *Inflorescence* borne in feathery panicles; sum. *Soil*, ordinary. *Position*, dryish sunny borders. *Plant*, Mar. or Ap. *Gather* inflorescence for drying for winter decoration in July. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in shallow boxes or pots filled with light soil placed in temp. of 56° to 65°, Feb. or Mar., hardening off seedlings & planting outdoors, May or June; or by sowing similar depth in ordinary soil in sunny position outdoors in Ap.; also by division of roots in Mar. or Ap.

Stock Gilliflower (*Matthiola annua*, *M. incana*, & *M. græca*)—see *Matthiola*.

Stock-leaved Hound's-tongue (*Cynoglossum cheirifolium*)—see *Cynoglossum*.

Stokes' Aster (*Stokesia cyanea*)—see *Stokesia*.

Stokesia (Stoke's Aster).—*Ord.* Compositæ. **Hardy** perennial herb. *Nat.* N. America. *Int.* 1766. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, blue; Aug. *Soil*, ordinary. *Position*, sunny well drained borders. *Plant*, Ap. *Protect* in winter by covering with hand-light. Plants may be lifted in Sept., placed in pots & removed to greenhouse for flowering during autn. & winter, afterwards planting outdoors following Ap. *Propagate* by division of roots, Mar. or Ap.

Stonecrop (*Sedum acre*)—see *Sedum*.

Stone Fern (*Ceterach officinarum*)—see *Ceterach*.

Stone-hore (*Sedum reflexum*)—see *Sedum*.

Stone Orpine (*Sedum reflexum*)—see *Sedum*.

Stone Pine (*Pinus pinea*)—see *Pinus*.

Stone-root (*Collinsonia canadensis*)—see *Collinsonia*.

Storax-plant (*Styrax officinalis*)—see *Styrax*.

Straggling Phlox (*Phlox divaricata*)—see *Phlox*.

Straight Bean (*Vicia faba*)—see *Vicia*.

Strainer Vine (*Luffa acutangula*)—see *Luffa*.

Strasburg Turpentine-tree (*Abies pectinata*)—see *Abies*.

Stratiotes (Water Soldier, Crab's Claw).—*Ord.* Hydrocharidaceæ. **Hardy** aquatic perennial. *Nat.* Britain. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, white; June. *Soil*, ordinary. *Position*, shallow lakes or ponds. *Plant*, Mar. or Ap.; enclosing roots & small quantity of mould in pieces of old sacking tied securely round base of stem & dropped into water where required to grow. *Propagate* by division in spring.

Strawberry-plant (*Fragaria vesca*)—see *Fragaria*.

Strawberry Tomato-plant (*Physalis Alkekengi*)—see *Physalis*.

Strawberry-tree (*Arbutus unedo*)—see *Arbutus*.

Streaked-barked Daphne (*Daphne striata*)—see *Daphne*.

Streaked-barked Plane-tree (*Platanus striata*)—see *Platanus*.

Strelitzia (Bird of Paradise Flower, Bird's Tongue Flower).—*Ord.* Scitamineæ. Greenhouse orn. foliage & flowering perennials. *Nat.* S. Africa. *Int.* 1791. *Ht.* 5 to 10 ft. *Species* cultivated, 5. *Flowers*, white, purple, yellow, orange; spring. *Leaves*, large, broad, oblong, milky-green. *Compost*, two parts loam, one part peat, & half a part silver sand. *Position*, pots or beds in sunny part of stove. *Pot* or *plant*, Feb. or Mar. *Water* copiously, Ap. to Sept.; moderately, Sept. to Nov.; keep nearly dry afterwards. *No shade* required. *Temp.*, Mar. to Oct., 65° to 75°; Oct. to Mar.,

55° to 65°. *Propagate* by seeds sown in compost of leaf-mould, peat, & loam, in temp. of 65° to 75°, spring; offsets or division of old plants, Feb. or Mar.

Streptocarpus (Cape Primrose).—*Ord.* Gesneriaceæ. Greenhouse & stove herbaceous perennials. *Nat. S. & Tropical Africa, Madagascar. Int.* 1824. *Ht.* 6 to 12 in. *Species* cultivated, about 10 greenhouse, 1 stove; hybrids several. *Flowers*, lilac, rose, blue, white; *Ap.* to Nov. *CULTURE OF STOVE SPECIES (S. Saundersi)*: *Compost*, two parts loam, one part of equal proportions of leaf-mould or peat, decayed manure, & silver sand. *Position*, pots in light part of stove. *Pot.* Mar. or *Ap.* *Shade* from sun. *Water* freely, *Ap.* to Sept.; moderately afterwards. *Apply* stimulants once a week to plants in flower. *Temp.*, 55° to 65°, Sept. to *Ap.*; 65° to 75°, *Ap.* to Sept. *CULTURE OF GREENHOUSE SPECIES (S. Rexi, S. Wendlandi, etc.)*: *Compost*, same as for stove species. *Position*, pots in light greenhouse. *Pot.* Mar. or *Ap.* *Temp.*, 40° to 50°. Oct. to *Ap.*; 55° to 65°, *Ap.* to Oct. *Shade* from sun. *Water* freely, *Ap.* to Oct.; keep nearly dry afterwards. *Apply* weak stimulants when plants are in flower. *Admit* air freely in sum. *Cold* shady frame good position for young plants during sum. *Propagate* by seeds sown in well drained pots, pans, or boxes, with equal parts of finely sifted loam, leaf-mould, peat, & sand. *Cover* the seeds thinly with a sprinkle of fine silver sand. *Moisten* the soil by holding the pot, pan, or box nearly to its rim or edge in tepid water. *Place* a pane of glass over top of pot, pan, or box, & put in a temp. 55° to 65°. *Transplant* seedlings as soon as large enough to handle 1 in. apart in above compost, in pans or pots, & when seedlings touch each other place them singly in 3-in. pots, & ultimately into 5 or 6-in. pots. *Seeds* sown in Feb. will produce plants for flowering following July, in Mar. or *Ap.*, following Aug. or Sept.

Streptosolen.—*Ord.* Solanaceæ. Greenhouse evergreen flowering shrub. *Nat. Columbia. Int.* 1817. *Ht.* 2 to 4 ft. *Species* cultivated, 1. *Flowers*, orange; May to Aug. *Compost*, two parts sandy loam, one part leaf-mould, & half a part silver sand. *Position*, well drained pots close to glass in light sunny greenhouse. *Pot.* Feb. to *Ap.* *Prune* shoots moderately close after flowering. *Water* freely, *Ap.* to Oct.; moderately afterwards, *Apply* weak stimulants occasionally during sum. *Shade* only from bright sunshine. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 50° to 60°. *Propagate* by cuttings inserted in light sandy soil under bell-glass, in temp. 55° to 65°, spring or sum.

String-wood (*Acalypha rubra*)—see *Acalypha*.

Striped Bamboo (*Bambusa striata*)—see *Bambusa*.

Striped-barked Flowering Ash (*Fraxinus ornus striata*)—see *Fraxinus*.

Striped-flowered Squill (*Puschkinia scilloides*)—see *Puschkinia*.

Striped Hedgehog Holly (*Ilex aquifolium ferox argenteo-variegata*)—see *Ilex*.

Strobilanthes (Conehead).—*Ord.* Acanthaceæ. Stove evergreen flowering shrubs. *Nat. Nepaul, E. Indies, China. Int.* 1823. *Ht.* 1 to 4 ft. *Species* cultivated, 14. *Flowers*, blue, violet, purple, lilac, lavender, yellow. Nov. to *Ap.* *Compost*, equal parts loam & leaf mould, with a little silver sand. *Pot.* Mar. or *Ap.* *Position*, well drained pots in moist part of stove, Mar. to June; sunny cold frame, June to Sept.; light stove, Sept. to Mar. *Prune* shoots in closely, Feb. *Water* moderately, Sept. to *Ap.*; freely other times. *Apply* liquid manure twice a week to plants in flower. *Propagate* by cuttings of moderately firm shoots, 2 to 3 in. long, inserted in light sandy compost under bell-glass in temp. 75°, Feb., Mar. or *Ap.*

Struthiopteris (Ostrich Fern).—*Ord.* Filices. Hardy deciduous ferns. *Nat. Europe, Japan, N. America. Int.* 1760. *Ht.* 1 to 3 ft. *Species* cultivated, 3. *Fronds*, feather-shaped; fertile ones contracted. *Soil*, two parts good loam, one part leaf-mould. *Position*, semi-shaded cool moist border or margin of ponds. *Propagate* by spores gathered just before the

cases burst & sown on surface of well drained pan of sandy peat & leaf-mould with a square of glass, & kept moderately moist in shady position in cold frame or greenhouse; division of plants, Mar. or Ap.

Stuartia.—*Ord.* Ternströmiaceæ. Hardy deciduous flowering shrubs. *Nat.* N. America, Japan. *Int.* 1743. *Ht.* 8 to 12 ft. *Species* cultivated, 3. *Flowers*, creamy white, with crimson-red stamens; Ap. to July. *Soil*, two parts moist sandy loam, one part peat. *Position*, open sunny borders sheltered on N. & E. by walls, trees, or shrubs. *Plant*, Oct. to Feb. *Propagate* by cuttings of firm shoots inserted in sandy soil under hand-light in sheltered position outdoors in autn.; layering shoots in Sept or Oct.

Stud-flower (*Helonias bullata*)—see *Helonias*.

Sturt's Desert Pea (*Clanthus Dampieri*)—see *Clanthus*.

Stylôphorum (Celandine Poppy).—*Ord.* Papaveraceæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1854. *Ht.* 8 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; May & June. *Soil*, ordinary light. *Position*, sunny beds or borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap; division of roots, Mar.

Styrax (Storax).—*Ord.* Styracaceæ. Hardy deciduous flowering shrubs. *Nat.* Levant, India, Japan, N. America. *Int.* 1597. *Ht.* 1 to 10 ft. *Species* cultivated, about 6. *Flowers*, white; Ap. to Aug. *Soil*, light ordinary. *Position*, sunny borders or shrubberies, or against S. walls. *Plant*, Oct. to Feb. *Propagate* by layering shoots in spring or autn.

Succory (*Cichorium intybus*)—see *Cichorium*.

Sugar Bean (*Phaseolus saccharatus* & *P. lunatus*)—see *Phaseolus*.

Sigar Cane (*Saccharum officinarum*)—see *Saccharum*.

Sugar Maple (*Acer saccharinum*)—see *Acer*.

Sugar Millet (*Sorghum saccharatum*)—see *Sorghum*.

Sugar Pea: Edible-podded varieties of Common Pea (*Pisum sativum*)—see *Pisum*.

Sugar Pine (*Pinus Lambertiana*)—see *Pinus*.

Sulphur-coloured Windflower (*Anemone sulphurea*)—see *Anemone*.

Sulphur-flowered Rose (*Rosa sulphurea*)—see *Rosa*.

Sulphur-flowered Sword-lily (*Gladiolus ochroleucus*)—see *Gladiolus*.

Sultan's Parasol (*Sterculia platanifolia*)—see *Sterculia*.

Summer Heliotrope (*Tournefortia heliotropioides*)—see *Tournefortia*.

Summer Pheasant's-eye (*Adonis æstivalis*)—see *Adonis*.

Summer Savory (*Satureia hortensis*)—see *Satureia*.

Summer Snowdrop (*Leucojum æstivum*)—see *Leucojum*.

Summer Snow-flake (*Leucojum æstivum*)—see *Leucojum*.

Summer Squash (*Cucurbita pepo*)—see *Cucurbita*.

Sundew (*Drosera rotundifolia*)—see *Drosera*.

Sun-drops (*Enothera fruticosa*)—see *Enothera*.

Sunflower (*Helianthus annuus*)—see *Helianthus*.

Sunflower Oil-plant (*Helianthus annuus*)—see *Helianthus*.

Sun-plant (*Portulacca grandiflora*)—see *Portulacca*.

Sun-rose (*Helianthemum vulgare*)—see *Helianthemum*.

Superb Yucca (*Yucca superba*)—see *Yucca*.

Surinam Tea-plant (*Lantana hybrida*)—see *Lantana*.

Sutherlandia (Cape Bladder Senna).—*Ord.* Leguminosæ. Half-hardy evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1683. *Ht.* 2 to 3 ft. *Species* cultivated, 1; variety 1. *Flowers*, scarlet; June. *Compost*, equal parts loam, peat, & silver sand. *Position*, against S. walls outdoors, S. & S.W. England

only, or in pots in cold greenhouse any part of kingdom. *Plant*, Sept., Oct. or Ap. *Pot*, Mar. *Water* plants in pots freely, Ap. to Sept.; moderately afterwards. *Prune*, Ap., shortening straggling shoots only. *Propagate* by seeds sown in compost of equal parts peat, loam, leaf-mould, & sand, lightly cover with fine soil, & place in temp. of 45° to 55° in spring; by cuttings of young shoots in May under bell-glass or hand-light.

Swainsonia (Darling River Pea, Poison Pea).—*Ord.* Leguminosæ. Greenhouse evergreen flowering shrubs. *Nat.* New Zealand, Australia. *Int.* 1800. *Ht.* 1 to 2 ft. *Species* cultivated, 6. *Flowers*, blue, purple, pink, violet, red, white; May to Sept. *Compost*, two parts fibrous loam, one part peat, & half a part silver sand. *Position*, well drained pots in light sunny greenhouse. *Pot*, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally in sum. *Remove* to cold frame or pit, June; replace in greenhouse, Sept. *Temp*, Sept. to Mar., 35° to 45°; Mar. to June, 55° to 65°. *Propagate* by seeds soaked for about an hour in tepid water, then sown $\frac{1}{2}$ in. deep in light soil in temp. 55° to 65°, Mar. or Ap.; cuttings of young shoots, 2 to 3 in. long, inserted in silver sand under bell-glass in cool shady part of greenhouse in sum.

Swainson's Pea (*Swainsonia galigifolia*)—see Swainsonia.

Swallow-tailed Willow (*Salix alba*)—see Salix.

Swallow-wort (*Chelidonium majus* & *Asclepias tuberosa*)—see Chelidonium & Asclepias.

Swamp Devil's Bit (*Ptelea trifoliata*)—see Ptelea.

Swamp Globe-flower (*Cephalanthus occidentalis*)—see Cephalanthus

Swamp Gooseberry (*Ribes lacustre*)—see Ribes.

Swamp Hellebore (*Verastrum viride*)—see Verastrum.

Swamp Lily (*Lilium superbum*)—see Lilium.

Swamp Locust-tree (*Gleditsia monosperma*)—see Gleditschia.

Swamp Maple (*Acer rubrum*)—see Acer.

Swamp Sassafras-tree (*Magnolia glauca*)—see Magnolia.

Swamp Saxifrage (*Saxifraga pennsylvanica*)—see Saxifraga.

Swamp Sunflower (*Helianthus autumnale*)—see Helianthus.

Swan-flower (*Cynoches ventricosum*)—see Cynoches.

Swan-neck Orchid (*Cynoches aureum*)—see Cynoches.

Swan River Daisy (*Brachycome ibridifolia*)—see Brachycome.

Swan River Everlasting (*Rhodanthe Manglesii*)—see Rhodanthe.

Swan-wort (*Cynoches ventricosum*)—see Cynoches.

Sweet Acorn Oak (*Quercus ballota*)—see Quercus.

Sweet Alyssum (*Kœnigia maritima*)—see Kœnigia.

Sweet Alysson (*Kœnigia maritimum*)—see Kœnigia.

Sweet Amber (*Hypericum androsaenum*)—see Hypericum.

Sweet Basil (*Ocimum basilicum*)—see Ocimum.

Sweet Bay-tree (*Laurus nobilis*)—see Laurus.

Sweet Briar (*Rosa rubiginosa* & *R. Eglantria*)—see Rosa.

Sweet Buck-eye (*Pavia flava*)—see Pavia.

Sweet Chestnut (*Castanea vesca*)—see Castanea.

Sweet Cicely (*Myrrhis odorata*)—see Myrrhis.

Sweet Cumin (*Pimpinella anisum*)—see Pimpinella.

Sweet Fern (*Myrrhis odorata*)—see Myrrhis.

Sweet Fennel (*Feniculum officinale*)—see Feniculum.

Sweet Flag (*Acorus calamus*)—see Acorus.

Sweet Gale (*Myrica Gale*)—see Myrica.

Sweet Grass (*Asperula odorata*)—see Asperula.

Sweet Gum-tree (*Liquidambar styraciflua*)—see Liquidambar.

Sweet John (*Dianthus barbatus angustifolius*)—see Dianthus.

- Sweet Marjoram** (*Origanum marjorana*)—see *Origanum*.
Sweet Marjoram Oil-plant (*Origanum marjorana*)—see *Origanum*.
Sweet Milfoil (*Achillea ageratum*)—see *Achillea*.
Sweet Nancy (*Narcissus biflorus fl. pl.*)—see *Narcissus*.
Sweet Oil-plant (*Olea europæa*)—see *Olea*.
Sweet Orange-tree (*Citrus aurantium*)—see *Citrus*.
Sweet Pea (*Lathyrus odoratus*)—see *Lathyrus*.
Sweet Pepper-bush (*Clethra alnifolia*)—see *Clethra*.
Sweet Potato (*Batatas edulis*)—see *Batatas*.
Sweet Reed (*Sorghum saccharatum*)—see *Sorghum*.
Sweet Scabious (*Scabiosa atropurpurea*)—see *Scabiosa*.
Sweet-scented Agrimony (*Agrimonia odorata*)—see *Agrimonia*.
Sweet-scented Bramble (*Rubus odoratus*)—see *Rubus*.
Sweet-scented Clematis (*Clematis flammula*)—see *Clematis*.
Sweet-scented Crab (*Pyrus coronaria*)—see *Pyrus*.
Sweet-scented Daphne (*Daphne odora*)—see *Daphne*.
Sweet-scented Everlasting (*Gnaphalium polycephalum*)—see *Gnaphalium*.
Sweet-scented Hedge Mustard (*Erysimum odoratum*)—see *Erysimum*.
Sweet-scented Hellebore (*Helleborus odoratus*)—see *Helleborus*.
Sweet-scented Lavender (*Lavandula dentata*)—see *Lavandula*.
Sweet-scented Mad-wort (*Kœnigia maritimum*)—see *Kœnigia*.
Sweet-scented Melon (*Cucumis Dudaim*)—see *Cucumis*.
Sweet-scented Mexican Marigold (*Tagetes lucida*)—see *Tagetes*.
Sweet-scented Oleander (*Nerium odoratum*)—see *Nerium*.
Sweet-scented Olive-tree (*Olea fragrans*)—see *Olea*.
Sweet-scented Ox-eye (*Bupthalmum aquaticum*)—see *Bupthalmum*.
Sweet-scented Pink (*Dianthus fragrans*, *D. pungenis*, & *D. suavis*)—see *Dianthus*.
Sweet-scented Plantain Lily (*Funkia grandiflora*)—see *Funkia*.
Sweet-scented Tulip (*Tulipa fragrans*)—see *Tulipa*.
Sweet-scented Violet (*Viola odorata*)—see *Viola*.
Sweet-scented Virgin's Bower (*Clematis flammula*)—see *Clematis*.
Sweet-scented Water Lily (*Nymphaea odorata*)—see *Nymphaea*.
Sweet Sedge (*Acorus calamus*)—see *Acorus*.
Sweet-sop (*Anona squamosa*)—see *Anona*.
Sweet Sultan (*Centaurea moschata* & *C. suaveolens*)—see *Centaurea*.
Sweet White Violet (*Viola blanda*)—see *Viola*.
Sweet William (*Dianthus barbatus*)—see *Dianthus*.
Sweet Willow (*Salix pentandra* & *Myrica gale*)—see *Salix* & *Myrica*.
Sweet Woodruff (*Asperula odorata*)—see *Asperula*.
Sweetest Honeysuckle (*Lonicera odoratissima*)—see *Lonicera*.
Swertia (Marsh Fel-wort).—*Ord.* Gentianacæ. Hardy annual, biennial, & perennial herbs. *Nat.* Europe, India, N. America, Siberia. *Int.* 1824. *Ht.* 6 in. to 3 ft. *Species* cultivated, 7 annuals; 1 biennial; 1 perennial. *Flowers*, yellow, purple, white, blue, green; *sum.* *CULTURE OF ANNUAL SPECIES* (*S. corymbosa*, etc.): *Soil*, moist peaty. *Position*, bogs, marshy places or margins of ponds. *Sow* seeds where required to grow in Ap., & thin when 2 in. high to 6 or 8 in. apart. *CULTURE OF BIENNIAL SPECIES* (*S. Michauxiana*). *Soil*, peaty. *Position*, moist borders or bogs. *Plant*, Mar. or Ap. *CULTURE OF PERENNIAL SPECIES* (*S. perennis*): *Soil*, equal parts peat & leaf-mould. *Position*, moist rockeries or damp places. *Plant*, Mar. or Ap. *Water* copiously

in dry weather. *Propagate* biennials by seeds sown in well drained pan filled with moist peat, placed in shady cold frame, Mar. or Ap., transplanting seedlings outdoors in June; perennials by seeds similarly to biennials, & division of roots in Mar.

Swiss Genipi (*Achillea moschata*)—see *Achillea*.

Swiss Stone Pine (*Pinus cembra*)—see *Pinus*.

Sword Grass (*Gladiolus communis*, *Phalaris arundinacea*)—see *Gladiolus* & *Phalaris*.

Sycamore-tree (*Acer pseudo-platanus*)—see *Acer*.

Sycamore-tree (*Ficus Sycomorus*)—see *Ficus*.

Symphoricarpus (Snow-berry Tree, St. Peter's-wort, Wolf-berry, Coral-berry, Indian Currant).—*Ord.* Caprifoliaceæ. Hardy deciduous shrubs. Flowering & berry-bearing. *Nat.* N. America, Mexico. *Int.* 1730. *Ht.* 4 to 8 ft. *Species* cultivated, 4; varieties 2 (one variegated). *Flowers*, white, rose, red; July to Sept.; much sought after by bees. *Berries*, white, red; autn. *Soil*, ordinary. *Position*, sunny or shady borders, copses or woodlands. *Plant*, Oct. to Feb. *Prune*, Oct. to Feb., simply thinning out old or decayed wood. *Propagate* by cuttings, 6 to 8 in long, of firm wood inserted in ordinary soil in shady position outdoors, Oct. to Feb.; suckers removed & planted, Oct. to Feb.

Symphandra (Pendulous Bell-flower).—*Ord.* Campanulaceæ. Hardy perennials. *Nat.* Orient. *Int.* 1823. *Ht.* 6 in. to 2 ft. *Species* cultivated, 4. *Flowers*, blue, white; sum. *Soil*, ordinary rich. *Position*, sunny well drained borders or rockeries. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds sown 1 in. deep in ordinary light sandy soil outdoors, Ap. to May; cuttings of young shoots inserted in sandy soil in cold frame, Mar. or Ap.; division of roots, Mar.

Symphytum (Comfrey, Alum, Black-root, Knit-back).—*Ord.* Boraginaceæ. Hardy tuberous rooted & herbaceous perennials. *Nat.* Europe (Britain). *Int.* (foreign species), 1799. *Ht.* 2 to 6 ft. *Species* cultivated, about 11; varieties several. *Flowers*, white, crimson, red, blue; May to Aug. *Leaves*, large, green, or margined with yellow. *Soil*, ordinary. *Position*, sunny or shady moist borders or margins of water courses or streams. *Plant*, Oct., Nov., Mar. or Ap. *Leaf*, divide, or replant every 3 or 4 years. *Propagate* by division of roots in spring.

Symplocarpus (Meadow Cabbage, Skunk Cabbage).—*Aroidaceæ*. Hardy aquatic perennial. *Nat.* N. America, N.E. Asia, Japan. *Int.* date unknown. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers* (spathe), spotted & striped with purple & yellowish green; May. *Soil*, peat. *Position*, moist semi-shady border, neat margins of stream or pond. *Plant*, Mar. or Ap. *Propagate* by division of root stocks, Mar. or Ap.

Syrian Silk-plant (*Periploca græca*)—see *Periploca*.

Syringa (*Philadelphus coronarius*)—see *Philadelphus*.

Syringa (Lilac, Pipe Privet, Pipe-tree).—*Ord.* Oleaceæ. Hardy deciduous flowering shrubs. *Nat.* E. Europe, Temperate Asia. *Int.* 1537. *Ht.* 4 to 10 ft. *Species* cultivated, about 9; varieties several. *Flowers*, white, violet, purple, rose, red; May or June. *Soil*, ordinary good. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Prune*, moderately after flowering (June), removing or shortening shoots that have flowered only. *Apply* house slops or liquid manure in sum. to plants growing in poor soils. **POT CULTURE FOR FORCING**: *Compost*, two parts good sandy loam, one part leaf-mould, & little sand. *Pot*, Oct. or Nov. *Place* plants after potting in sheltered corner outdoors, protecting pots from frost with litter until required for forcing. *Transfer* to temp. of 55°, Nov. to Feb. *Syringe* daily. *Water* moderately. *Directly* buds burst place in temp. of 60° to 65°, when expanded replace in temp. of 55°. *Prune* shoots that have flowered to within 2 in. of base directly after blooming. *Keep* plants in heat until May, then gradually

harden & plant outdoors. *Plants* must not be forced two years in succession. *Lilacs* may be grown in cold greenhouse for flowering in Ap. & May. *Place* in greenhouse in Nov. *Propagate* by seeds sown in sunny position outdoors in autn. or spring; suckers removed & planted from Oct. to Feb.; layering shoots in Sept.; choice varieties by budding on common species in July, or by grafting on common species on the ash in Mar. or Ap.

Tabebuia.—Ord. Bigoniaceæ. Stove evergreen flowering shrubs. *Nat.* Tropical America. *Int.* 1759. *Ht.* 15 to 20 ft. *Species* cultivated, 5. *Flowers*, orange, yellow, white; *sum.* *Compost*, two parts loam, one part peat & silver sand. *Position*, large well drained pots, or beds 3 ft. square, 18 in. deep for one plant, in light sunny greenhouse; shoots trained up roof. *Put* or plant, Feb. or Mar. *Good* drainage absolutely necessary. *Prune* away strong shoots, & weak shoots in Feb. *Water* copiously, Ap. to Oct.; keep nearly dry, Oct. to Ap. *Apply* weak stimulants occasionally to healthy established plants in *sum.* *No* shade required at any time. *Admit* air freely during *sum.* & early autn. to thoroughly ripen wood for insuring abundance of flowers. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. *Propagate* by cuttings of firm young shoots, 3 in. long, inserted in well drained pots of sandy soil, placed under bell-glass, in temp. of 55° to 65° in *sum.*; cuttings of roots, 1 to 2 in. long, planted 1 in. deep in sandy soil in temp. of 55° to 65°, spring; layering shoots in Mar., Ap., Sept. or Oct.

Tabernæmontana (Adam's Apple, East Indian Rose Bay).—Ord. Apocynaceæ. Stove evergreen flowering shrubs. *Nat.* E. & W. Indies, Mauritius, Sierra Leone, Ceylon, Peru. *Int.* 1770. *Ht.* 4 to 12 ft. *Species* cultivated, about 10. *Flowers*, white, yellow; fragrant; May to Oct. *Compost*, two parts sandy loam, one part fibry peat, half a part silver sand. *Position*, well drained pots in light stove. *Put*, Feb. to Ap. *Prune* straggling shoots moderately close immediately after flowering. *Water* freely, Mar. to Oct.; moderately afterwards. *Springs* daily, Mar., & until flowers appear. *Temp.*, Mar. to Sept., 70° to 80°; Sept. to Mar., 65° to 75°. *Propagate* by cuttings of ripe shoots, 2 to 3 in. long, inserted in small pots filled with sand under bell-glass in temp. 65° to 75° in Feb.

Table Mountain Orchid (*Disa grandiflora*)—see *Disa*.

Table Mountain Pine-tree (*Pinus pungens*)—see *Pinus*.

Table-shaped Houseleek (*Sempervivum tabulaforme*)—see *Sempervivum*.

Tacsonia (Blood-red Passion-flower, Van Volxem's Passion-flower).—Ord. Passifloraceæ. Greenhouse evergreen flowering climbers. *Nat.* Peru, New Grenada, Quito, Tolima. *Int.* 1823. *Ht.* 30 ft. *Species* cultivated, about 7; hybrids & varieties several. *Flowers*, crimson, violet, pink, scarlet, orange; *sum.* *Compost*, equal parts fibrous loam & peat, one fourth silver sand. *Put* or plant, Feb. or Mar. *Position*, well drained tubs or pots, or beds 18 in. deep & 2 ft. wide; shoots to be trained up rafters or walls; sunny. *Prune*, Feb., thinning out weak shoots & shortening strong ones one-third. *Water* copiously, Mar. to Sept.; moderately afterwards. *Syringe* twice daily, Ap. to Sept. *Apply* stimulants occasionally to healthy plants when in flower only. *Temp.*, Mar. to Oct., 60° to 70°; Oct. to Mar., 40° to 50°.

Tag Alder (*Alnus rubra*)—see *Alnus*.

Tagetes (African Marigold, French Marigold, Striped Mexican Marigold, Sweet-scented Mexican Marigold).—Ord. Compositæ. Half-hardy annuals. *Nat.* Mexico, Peru, Chili. *Int.* 1596. *Ht.* 4 in. to 3 ft. *Species* cultivated, about 6; varieties several. *Flowers*, yellow, orange, red, chocolate; *sum.* *Soil*, ordinary, well enriched with decayed manure. *Position*, sunny borders for African Marigold (*T. erecta*); sunny beds or borders for French Marigold (*T. patula*); edgings to beds or borders for *T. signata pumila* & *T. tenuifolia*. *Sow* seeds ½ in. deep in light soil in temp. 55° to 65° in Mar., or in unbrated greenhouse in Ap. *Transplant* seedlings when three leaves form, 3 in. apart, in light soil in shallow boxes, or in bed of rich

soil in cold frames, gradually harden off in May, and plant out in June. *Plant* African marigolds in groups of three or six, or 16 in. apart in rows; French marigolds singly, or in groups in borders, or 12 in. apart in rows; Dwarf Marigolds (*T. signata pumila*) 6 in. apart in rows. African Marigold for exhibition to carry four blooms only. *Thin* shoots to four on each plant, each carrying one bloom. *Water* freely in dry weather. *Apply* stimulants occasionally to plants in flower. *Suitable stimulants*: (1) 1 oz. of Peruvian guano to a gallon of water. (2) $\frac{1}{2}$ oz. sulphate of ammonia to a gallon of water.

Tail-flower (*Anthurium Scherzerianum*)—see *Anthurium*.

Tall Blue Lobelia (*Lobelia syphilitica*)—see *Lobelia*.

Tall Garden Phlox (*Phlox paniculata*)—see *Phlox*.

Tall Guatemala Cypress (*Cupressus excelsa*)—see *Cupressus*.

Tall Larkspur (*Delphinium exaltatum*)—see *Delphinium*.

Tall Nasturtium (*Tropaeolum majus*)—see *Tropaeolum*.

Tall St. John's-wort (*Hypericum elatum*)—see *Hypericum*.

Tall Sea-Lavender (*Statice elata*)—see *Statice*.

Tall Sulphur-flowered Lily (*Lilium coichicum*)—see *Lilium*.

Tall Torch Lily (*Tritoma grandis*)—see *Tritoma*.

Tall Upright Juniper (*Juniperus excelsa stricta*)—see *Juniperus*.

Tall White Evening Primrose (*Oenothera speciosa*)—see *Oenothera*.

Tallow-shrub (*Myrica cerifera*)—see *Myrica*.

Tamarack (*Larix americana*)—see *Larix*.

Tamarindus (*Tamarindus* Tree, Indian Date).—*Ord.* Leguminosae. Stove evergreen flowering tree. *Nat.* Tropics. *Int.* 1633. *Ht.* 20 to 40 ft. *Species* cultivated, 1. *Flowers*, yellow, striped with red; June to Aug. *Leaves*, feather-shaped. *Compost*, two parts fibrous loam, one part sand. *Position*, large well drained pots or tubs in lofty stove. *Pl.* or plant, Feb. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Temp.*, Ap. to Oct., 70° to 85°; Oct. to Ap., 60° to 70°. *Propagate* by seeds steeped for a few hours in tepid water, & then sown $\frac{1}{2}$ in. deep in light soil in temp. 75° to 85° in spring; cuttings of shoots inserted singly in small well drained pots placed under bell-glass in temp. 65° to 75°, Mar. to Aug.

Tamarisk (*Tamarix gallica*)—see *Tamarix*.

Tamarisk-leaved Juniper (*Juniperus tamariscifolia*)—see *Juniperus*.

Tamarisk Manna-tree (*Tamarix gallica mannifera*)—see *Tamarix*.

Tamarix *Tamarisk*, *Manna Plant*).—*Ord.* Tamaricaceae. Greenhouse & hardy evergreen shrubs. Flow ring & orn. foliage. *Nat.* Europe, Britain, Caucasus, Levant, Taurea, Arabia, Persia, India, E. Indies. *Ht.* 5 to 20 ft. *Species* cultivated, 3 hardy; 2 greenhouse. *Flowers*, pink, white; sum. *Leaves*, scaly. **CULTURE OF HARDY SPECIES** (*T. gallica*, *T. parviflora*, & *T. tetrandra*): *Soil*, ordinary or sandy. *Position*, shrubberies or hedges in seaside gardens. S. & S.W. England; sunny banks or sheltered shrubberies in inland gardens south of the Trent. *Plant*, Sept. to Ap. *Prune*, Oct. to Mar., shortening straggling shoots only. **CULTURE OF GREENHOUSE SPECIES** (*T. articulata* & *T. dioica*): *Compost*, equal parts peat, loam, & sand. *Position*, well drained pots in light part of warm greenhouse. *Pot*, Feb. or Mar. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *Temp.*, Ap. to Sept., 55° to 65°; Sept. to Ap., 40° to 50°. *Propagate* hardy species by cuttings of shoots, 4 to 6 in. long, inserted in sandy soil in sheltered position under hand-light or in cold frame, Sept. or Oct.; greenhouse species by cuttings of young shoots inserted in pure sand under bell glass in temp., 55° to 65°, spring or sum.

Tamus (Black Bryony, Lady's Seal, Mandrake, Isle-of-Wight Vine,

Murrain Berries, Ox Berry).—*Ord.* Dioscoreaceæ. Hardy tuberous-rooted perennial twiner. *Nat.* Europe (Britain). *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, greenish; May to June. *Fruit*, bright, scarlet berries; poisonous; autn. *Soil*, ordinary. *Position*, sunny; shoots growing over arbours, tree stumps, hedges, or banks. *Plant*, Mar. or Ap. *Propagate* by seed sown ½ in. deep in light soil in sunny position outdoors in Ap., transplanting seedlings when 3 in. high where required to grow; division of roots, Mar. or Ap.

Tanacetum (Tansy, Alecost, Costmary, Buttons).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Orient, Turkestan, India, Nepaul, N. America. *Ht.* 1 to 3 ft. *Species* cultivated, 4. *Flowers*, yellow; May to Sept. **CULTURE OF TANSY** (*T. vulgare*): *Soil*, ordinary. *Position*, sunny. *Plant*, 12 in. apart in rows 18 in. asunder in Mar. or Oct. Remove flower stems as they form. *Replant* every 3 or 4 years. *Leaves* aromatic, used for flavouring puddings, etc., and for garnishing. **CULTURE OF ORNAMENTAL KIND** (*T. vulgare crispum*): *Soil*, ordinary moist. *Position*, sunny borders. *Plant*, Mar. *Lift*, divide, & replant every 2 or 3 years. **CULTURE OF COSTMARY** (*T. Balsamita*): *Soil*, ordinary dryish. *Position*, sunny. *Plant*, 2 ft. apart each way in Mar. *Leaves* used for salads. *Propagate* by seeds sown outdoors in spring; division of the roots in Oct. or Mar.

Tangerine Orange-tree (*Citrus nobilis minor*)—see Citrus.

Tangier Iris (*Iris Tingitana*)—see Iris.

Tanner's Sumach (*Rhus coriaria*)—see Rhus.

Tansy (*Tanacetum vulgare*)—see Tanacetum.

Tansy-leaved Hawthorn (*Crataegus tanacetifolia*)—see Crataegus.

Tansy-leaved Worm-wood (*Artemisia tanacetifolia*)—see Artemisia.

Tape Grass (*Vallisneria spiralis*)—see Vallisneria.

Taraxacum (Dandelion).—*Ord.* Compositæ. Hardy perennial herb. Cultivated solely for its blanched leaves as saladings. *Nat.* Europe (Britain). *Species* cultivated, 1. *Flowers*, yellow; Mar. to Oct. *Soil*, ordinary deep, free from recent manure. *Position*, sunny. *Sow* seeds 1 in. deep in drills 12 in. apart in Ap. *Thin* seedlings to 6 in. apart in rows in May. Remove flower stems directly they form. *Lift* roots in Nov., & store in sand in cool place. *Plant* roots almost close together in boxes or large pots in ordinary soil. *Cover* pots, etc., to exclude light. *Place* in warm greenhouse between Nov. & Ap. *Keep* soil moist & cut leaves when 3 to 6 in. long for salads. *Destroy* roots afterwards. *Make* a fresh sowing annually.

Tarentina Pine-tree (*Pinus pinea fragilis*)—see Pinus.

Tarragon (*Artemisia dracunculus*).—*Ord.* Compositæ. Hardy perennial herb. *Leaves* aromatic; used for flavouring soups, vinegar, etc. *Nat.* S. Europe. *Int.* 1518. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, white, green; July. *Soil*, light, dryish, ordinary. *Position*, sunny border. *Plant* roots 2 to 3 in. deep, 8 in. apart in rows 18 in. asunder, Mar. or Ap. *Replant* annually. *Cut* foliage off in Sept., & dry it for use in winter. *Place* a few roots in ordinary soil in box or large pot, & put this in warm greenhouse in Oct. to supply young shoots during winter. *Propagate* by cuttings of shoots inserted in ordinary soil in temp. 55° in Mar. or Ap., or under hand-light outdoors in July; division of the roots in Mar. or Ap.

Tartarian Honeysuckle (*Lonicera tartarica*)—see Lonicera.

Tartarian Ixia-lily (*Ixiolirion tartaricum*)—see Ixiolirion.

Tartarian Maple (*Acer tartaricum*)—see Acer.

Tartarian Mulberry (*Morus tartarica*)—see Morus.

Tartarian Pine-tree (*Pinus Laricio pallasiana*)—see Pinus.

Tartarian Sea-Lavender (*Statice tartarica*)—see Statice.

Tart Rhubarb (*Rheum rhaponticum*)—see Rheum.

Tasmanian Bellflower (*Wahlenbergia littoralis*)—see Wahlenbergia.

Tasmanian Carrot (*Geranium parviflorum*)—see *Geranium*.

Tasmanian Daisy-tree (*Eurybia lyrata*)—see *Eurybia*.

Tasmanian Everlasting (*Helichrysum apiculatum*)—see *Helichrysum*.

Tasmanian Heath (*Epacris exserta*)—see *Epacris*.

Tasmanian Honeysuckle (*Banksia australis*)—see *Banksia*.

Tasmanian Tree Fern (*Dicksonia antarctica*)—see *Dicksonia*.

Tassel Cotton-gross (*Eriophorum polystachyon*)—see *Eriophorum*.

Tassel Cotton-rush (*Eriophorum polystachyon*)—see *Eriophorum*.

Tassel Hyacinth (*Muscari comosum*)—see *Muscari*.

Tawny Day-lily (*Hemerocallis fulva*)—see *Hemerocallis*.

Taxodium (Deciduous Cypress).—*Ord.* Coniferae. Hardy deciduous coniferous trees; orn. foliage. *Nat.* U.S.A. *Int.* 1640. *Ht.* 8 to 120 ft. *Species* cultivated, 1; varieties 4. *Leaves*, feather-shaped, deciduous, bright green changing to dull red in autn. *Habit*, pyramidal when young; broad, cedar like when full grown. *Soil*, moist loam. *Position*, margins of ponds & rivers or in damp places. Dry position quite unsuitable. *Plant*, Oct. to Feb. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light soil in cold frame in Ap., transplanting seedlings singly into small pots following spring & planting outdoors the year after; cuttings of shoots inserted in water in cold greenhouse or frame in spring or sum.; layering branches in Sept. or Oct.

Taxus (Yew Tree).—*Ord.* Coniferae. Hardy evergreen trees. *Nat.* Common species, Europe (Britain), India; other species, California, Japan, Mexico. *Ht.* 3 to 40 ft. *Species* cultivated, 5; varieties numerous. *Leaves*, flat, feathery, dark green or variegated; poisonous. *Habit*, pyramidal or bushy. *Soil*, good deep ordinary moist. *Position*, sunny or shady shrubberies for common kinds; sunny shrubberies, lawns, or borders for variegated & Irish yews. *Plant*, Sept. to Nov., Feb. to May. *Prune*, Ap. **WINTER BEDDING**: Sort best adapted for the purpose—*T. baccata* elegantissima. *Plant*, Oct. or Nov. *Lift* & replant in reserve border in May. **POT CULTURE**: Most suitable kind—*T. baccata* elegantissima. *Pot*, Oct. or Nov. *Compost*, two parts good ordinary mould, one part leaf-mould. *Water* moderately, Nov. to Ap.; freely afterwards. *Keep* in cold greenhouse, balcony, or corridor Oct. to May; outdoors afterwards, pots plunged to rims in cinders or soil. **HEDGE CULTURE**: Suitable kinds—Common, gold & silver striped, upright English & Irish yews. *Position*, sunny. *Soil*, good moist ordinary, previously trenched $\frac{1}{2}$ spits deep & 3 ft. wide. *Plant*, Oct., Nov., Mar. or Ap. *Distance for planting*: 12 in. for trees 18 in. high; 18 in. for trees 3 ft. high; 2 ft. for trees 3 ft. 6 in. to 5 ft. high. *Prune*, trim, or clip in Ap. or Sept. *Propagate* by seeds sown 1 in. deep in light soil outdoors in Mar. or $\frac{1}{2}$ in. deep in pans or boxes of light soil, in cold frame or greenhouse in Mar., transplanting seedlings in nursery bed when large enough to handle; by cuttings of shoots inserted in sandy soil under hand-light, or in cold frame in Sept.; grafting variegated kinds on common upright yew in Mar.; layering in Sept.

Tea-berry (*Gaultheria procumbens*)—see *Gaultheria*.

Tea-plant (*Thea viridis*)—see *Thea*.

Tea-scented Rose (*Rosa indica*)—see *Rosa*.

Tea Tree (*Lycium barbarum*)—see *Lycium*.

Tecoma (Trumpet Flower, West Indian Honeysuckle, Moreton Bay Trumpet Jasmine).—*Ord.* Bignoniaceae. Stove greenhouse & hardy evergreen climbing flowering shrubs. *Nat.* Australia, Cape of Good Hope, Fiji Islands, Peru, Japan, China, Mexico, N. & S. America, West Indies, India, Arabia, *Int.* 1640. *Ht.* 6 to 20 ft. *Species* cultivated, 1 hardy; 7 greenhouse; 6 stove. *Flowers*, orange, scarlet, bluish, pink, white, yellow; sum. **CULTURE** or **STOVE SPECIES** (*T. valdiviana*, etc.): *Compost*, two parts loam, one part peat & silver sand. *Position*, pots or beds with shoots trained up roof. *Pot* or *plant*, Feb. or Mar. *Prune*, Feb., shortening strong shoots $\frac{1}{2}$, & weak ones

†. *Water* freely, Ap. to Sept.; keep nearly dry afterwards. *Expose* shoots fully to sun during Aug. & Sept. in order to ripen them thoroughly for flowering next season. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Nov., 60° to 70°; afterwards 55° to 65°. *CULTURE OF GREENHOUSE SPECIES* (*T. capensis*, *T. jasminoides*, etc.): *Compost*, two parts loam, one part peat & silver sand. *Position*, large well drained pots, or beds 3 ft. square, 18 in. deep for one plant, in light sunny greenhouse; shoots trained up roof. *Pot* or plant, Feb. or Mar. *Good drainage* absolutely necessary. *Prune* away $\frac{1}{2}$ of strong shoots, $\frac{1}{4}$ of weak shoots, in Feb. *Water* copiously, Ap. to Oct. *Keep* nearly dry, Oct. to Ap. *Apply* weak stimulants occasionally to healthy established plants in sum. *No shade* required at any time. *Admit* air freely during sum. & early autn. to thoroughly ripen wood for insuring abundance of flowers. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 40° to 50°. *CULTURE OF HARDY SPECIES* (*T. radicans*): *Soil*, two parts loam, one part peat & silver sand. *Position*, well drained border against S. wall. *Plant*, Sept. to Mar. *Prune* as for greenhouse species in Mar. *Propagate* by cuttings of firm young shoots, 3 in. long, inserted in well drained pots of sandy soil placed under bell-glass in temp. of 55° to 65° in sum.; cuttings of roots, 1 to 2 in. long, planted an inch deep in sandy soil in temp. of 55° to 65°, spring; layering shoots in Mar., Ap., Sept. or Oct.

Tecophilæa (Chilian Crocus).—*Ord.* Hæmodoracæ. Greenhouse bulbous plants. *Nat. Chili. Int.* 1872. *Species* cultivated, 1; variety 1. *Flowers*, blue, white; fragrant; spring. *Compost*, two parts sandy loam, one part decayed cow manure. *Position*, well drained bed in cold frame or pots in cool greenhouse. *Plant* bulbs 3 in. deep & 6 in. apart in frame, Aug. to Nov. *Pot*, singly in 3½-in. pots or three in a 5-in. pot & 2 in. deep. *Cover* pots with ashes or fibre refuse till growth begins. *Water* moderately; keep dry after foliage turns yellow until growth recommences. *No artificial heat* required. *Admit* air freely to plants in pots & frames after Feb. *Propagate* by offsets removed at potting time.

Telamon Daffodil (*Narcissus telamonius*)—see Narcissus.

Telegraph plant (*Desmodium gyrans*)—see Desmodium.

Teltow Turnip (*Brassica napus* var.)—see Brassica.

Tenby Six-lobed Daffodil (*Narcissus lobularis*)—see Narcissus.

Tendrilled Trumpet-flower (*Bignonia capreolata*)—see Bignonia.

Teneriffe Houseleek (*Sempervivum ciliatum*)—see Sempervivum.

Teneriffe Laburnum (*Cytisus nubigenus*)—see Cytisus.

Teneriffe Wallflower (*Cheiranthus scoparius*)—see Cheiranthus.

Tenore's Candytuft (*Iberis Tenoreana*)—see Iberis.

Ten-petalled Sunflower (*Helianthus decapetalus*)—see Helianthus.

Ten-weeks Stock (*Mathiola annua*)—see Mathiola.

Testudinaria (Hottentot's Bread, Elephant's Foot).—*Ord.* Dioscoreacæ. Greenhouse deciduous climber. *Nat. S. Africa. Int.* 1774. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Compost*, equal parts fibrous loam, turfy peat, & sand. *Position*, well drained in sunny greenhouse. *Pot*, Feb. or Mar. *Water* moderately, Ap. to Sept.; keep nearly dry afterwards. *No shade* required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 60°. *Propagate* by cuttings of firm side shoots inserted in sandy loam under bell-glass in temp. 45° to 55° in spring, or cuttings of young shoots when 1 to 2 in. long inserted in sandy loam under bell-glass in similar temp., spring or sum.

Tetragonia (New Zealand Spinach).—*Ord.* Ficoideæ. Hardy annual. Cultivated in gardens as a substitute for sum. spinach—especially on light dry soils. *Nat. New Zealand. Int.* 1772. *Ht.* 3 in. *Species* cultivated, 1. *Flowers*, yellow; sum. *Leaves*, large, thick, succulent. *Soil*, ordinary. *Position*, sunny. *Sow* seeds, previously soaked for 24 hours in tepid water, singly 1 in. deep in 2-in. pots filled with light soil in Mar. *Place* pots in temp. 55° to 65°

& keep soil moist. *Transfer* seedlings to 5-in. pots when seedlings form four leaves, harden off in cold frame, & plant out 3 ft. apart in rows 4 ft. asunder. *Gather* the leaves only for cooking. *Water* freely in dry weather. *Seeds* may be sown in open ground in May if unable to sow them in heat.

Tetratheca.—*Ord.* Tremandraceæ. Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1803. *Ht.* 1 to 2 ft. *Species* cultivated. 14. *Flowers*, pink, crimson, rose; June to Aug. *Compost*, two parts fibrous peat, one part turfy loam, one part equal proportions charcoal, broken pots & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot.*, Feb. or Mar. *Water* moderately at all seasons; rain water only to be used. *Shade* from sun, June to Sept. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 50° to 65°. *Propagate* by cuttings of side shoots inserted in sand under bell-glass in shade in temp. 55° to 65°, sum.

Teucrium (Germander, Cat Thyme).—*Ord.* Labiataæ. Hardy perennials & greenhouse shrubs. *Nat.* Europe (Britain), Madeira, Chili, Persia, Levant. *Ht.* 1 to 2 ft. *Species* cultivated, 5 hardy perennials; 2 greenhouse shrubs. *Flowers*, purple, blue, rose; May to Aug. *CULTURE OF GREENHOUSE SPECIES* (*T. betonicum* & *T. fruticans*): *Compost*, two parts loam, one part leaf-mould, & little sand. *Position*, pots in light airy greenhouse. *Pot.*, Feb. or Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Temp.*, Ap. to Oct., 65° to 65°; Oct. to Ap., 40° to 50°. *Prune* straggling shoots into shape, Feb. *CULTURE OF HARDY SPECIES* (*T. chamædrys*, *T. marum*, etc.): *Soil*, ordinary. *Position*, sunny borders for *T. chamædrys* & *T. orientale*; sunny dryish rockeries or old walls for *T. marum*, etc. *Plant*, Mar. or Ap. *Propagate* greenhouse species by cuttings inserted in sandy soil under bell-glass in shade in temp. 55° to 65°, spring or sum.; hardy species by division of roots in Mar. or Ap.

Texan Daisy (*Bellis integrifolia*)—see *Bellis*.

Thalictrum (Meadow Rue, Tufted Columbine, Spanish Tuft).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), Asia, N. America. *Int.* (foreign species) 1713. *Ht.* 6 in. to 3 ft. *Species* cultivated, 8. *Flowers*, white, yellow, purple; May to June. *Leaves*, finely divided, green; excellent substitute for maidenhair fern. *Soil*, ordinary. *Position*, sunny borders for tall species, *T. aquilegifolium*, etc.; sunny rockeries for dwarf species, *T. anemonoides* & *T. minus*. *Plant*, Oct. to Mar. *Top-dress* annually in Feb. or Mar. with decayed manure. *Lift*, divide, & replant only when absolutely necessary. *Propagate* by division of roots in Mar. or Ap.

Thea (Tea Plant).—*Ord.* Ternströmiaceæ. Greenhouse evergreen flowering shrub. *Nat.* China, Japan. *Int.* 1780. *Ht.* 2 to 6 ft. *Species* cultivated, 1. *Flowers*, white; Nov. to Mar. *Leaves*, oblong, dark green. *Compost*, equal parts fibrous peat & turfy sandy loam. *Position*, well drained pots or beds in light airy greenhouse. *Pot* or plant, Feb. or Mar.; firm potting essential. *Water* somewhat freely, Ap. to Sept.; moderately afterwards. *Syringe* daily, sum. *Place* plant; outdoors on bed of cinder ashes, boards, or tiles in partial shade, June to Sept. *Prune* straggling shoots only into shape, Feb. *Temp.*, Sept. to Mar., 50° to 55°; Mar. to June, 55° to 65°. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy peat in temp. 75° in Mar.; cuttings of firm shoots inserted in well drained pots of sandy peat in cool greenhouse in Aug., transferring pots in Mar. to temp. 65°, & putting cuttings in small pots following Sept.; layering shoots in Sept.; grafting in Mar.

Theobroma (Cacao, Cocoa Tree, Chocolate Tree).—*Ord.* Sterculiaceæ. Stove evergreen trees. *Nat.* Trinidad. *Int.* 1739. *Ht.* 10 to 15 ft. *Species* cultivated, 1. *Flowers*, rose, yellow; May. *Fruit*, oval, yellow, or reddish. *Compost*, equal parts fibrous loam & sand. *Position*, well drained pots in moist warm stove. *Pot.*, Feb. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Shade* from sun. *Prune* into shape, Feb. *Temp.*, Oct. to Mar., 55° to 65°; Mar. to Oct., 70° to 85°. *Propagate* by cuttings of

half-ripened shoots inserted in sand under bell-glass in temp. of 75° to 85°, Ap. to Aug.

Thermopsis.—*Ord.* Leguminosæ. Hardy herbaceous perennials. *Nat.* Himalayas, Kamschatka, N. America. *Int.* 1799. *Ht.* 1 to 2 ft. *Species* cultivated, 4. *Flowers*, purple, yellow; June to Aug. *Soil*, ordinary. *Position*, open sunny borders. *Plant*, Mar. or Ap. *Propagate* by seeds sown $\frac{1}{2}$ in, deep in light rich soil in sunny position outdoors in Ap., transplanting seedlings when large enough to handle.

Thick-bulbed Daffodil (*Narcissus pachybulbos*)—see *Narcissus*.

Thick-leaved Indian Fig (*Opuntia crassa*)—see *Opuntia*.

Thick-leaved Saxifrage (*Megasea crassifolia*)—see *Megasea*.

Thick-leaved Small Daisy (*Bellium crassifolium*)—see *Bellium*.

Thick-leaved Stone-crop (*Sedum dasyphyllum* & *S. turgidum*)—see *Sedum*.

Thick-leaved Whortleberry (*Vaccinium crassifolium*)—see *Vaccinium*.

Thistle Oil Plant (*Argemone mexicana*)—see *Argemone*.

Thistle-upon-Thistle (*Onopordon acanthium*)—see *Onopordon*.

Thladiantha.—*Ord.* Cucurbitaceæ. Half-hardy annual climber. *Nat.* India, China. *Int.* 1864. *Ht.* 5 to 10 ft. *Species* cultivated, 1. *Flowers*, golden; sum. *Fruit*, green, oblong, netted, & ribbed. *Soil*, ordinary. *Position*, well drained border against sunny wall. *Sow* seeds in light soil in temp. 55° to 65°, Mar. or Ap., transplanting seedlings singly into small pots when three leaves form, harden in cold frame or greenhouse & plant outdoors, May or June.

Thompson's Poppy (*Papaver umbrosum*)—see *Papaver*.

Thong Lily (*Imantophyllum minutum*)—see *Imantophyllum*.

Thorn Apple (*Datura stramonium*)—see *Datura*.

Thorn Broom (*Ulex europæus*)—see *Ulex*.

Thornless Tooth-ache-tree (*Xanthoxylum mite*)—see *Xanthoxylum*.

Thorny Buttons (*Medicago muricata*)—see *Medicago*.

Thorough-wax (*Bupleurum rotundifolium*)—see *Bupleurum*.

Thread-leaved Japan Cypress (*Retinospora filifera*)—see *Retinospora*.

Thread-leaved Sun-dew (*Drosera filiformis*)—see *Drosera*.

Thready Adam's Needle (*Yucca filamentosa*)—see *Yucca*.

Three-bird's Toad-flax (*Linaria triornithophora*)—see *Linaria*.

Three-coloured Amaranth (*Amaranthus tricolor*)—see *Amaranthus*.

Three-coloured Camellia (*Camellia tricolor nova* & *C. tricolor imbricata plena*)—see *Camellia*.

Three-coloured Celeriac (*Apium graveolens rapaceum tricolor*)—see *Apium* in supplement.

Three-coloured Chrysanthemum (*Chrysanthemum tricolor* & *C. coccineum*)—see *Chrysanthemum*.

Three-coloured Fig Marigold (*Mesembryanthemum tricolor*)—see *Mesembryanthemum*.

Three-coloured Indian Crocus (*Pleione tricolor*)—see *Pleione*.

Three-coloured Ivy (*Hedera helix tricolor*)—see *Hedera*.

Three-coloured-leaved Spindle-tree (*Euonymus japonicus tricolor*)—see *Euonymus*.

Three-coloured Water-lily (*Nuphar advena*)—see *Nuphar*.

Three-faces-under-a-hood (*Viola tricolor*)—see *Viola*.

Three-flowered Gooseberry (*Ribes triflorum*)—see *Ribes*.

Three-flowered Honeysuckle (*Lonicera triflora*)—see *Lonicera*.

Three-flowered Laburnum (*Cytisus triflorus*)—see *Cytisus*.

Three-flowered St. John's-wort (*Hypericum triflorum*)—see *Hypericum*.

Three-flowered Salt-tree (*Halimodendron triflorum*)—see *Halimodendron*.

Three-fruited Toothache-tree (*Xanthoxylum tricarpum*)—see *Xanthoxylum*.

Three-horned Larkspur (*Delphinium tricornis*)—see *Delphinium*.

Three-leaved Nightshade (*Trillium grandiflorum*)—see *Trillium*.

Three-leaved Rose (*Rosa sinica*)—see *Rosa*.

Three-leaved Tooth-wort (*Dentaria triphylla*)—see *Dentaria*.

Three-leaved Tulip (*Tulipa triphylla*)—see *Tulipa*.

Three-leaved Windflower (*Anemone trifolia*)—see *Anemone*.

Three-lobed Cornflower (*Rudbeckia triloba*)—see *Rudbeckia*.

Three-lobed-leaved Pear-tree (*Pyrus triloba*)—see *Pyrus*.

Three-lobed-leaved Plum-tree (*Prunus triloba*)—see *Prunus*.

Three-nerved St. John's-wort (*Hypericum triplinerve*)—see *Hypericum*.

Three-seeded Mercury (*Acalypha tricolor*)—see *Acalypha*.

Three-spined Saxifrage (*Saxifraga tricuspidata*)—see *Saxifraga*.

Three-stamened Daffodil (*Narcissus triandrus*)—see *Narcissus*.

Three-thorned Acacia (*Gleditschia triacanthos*)—see *Gleditschia*.

Three-toothed Rest-harrow (*Ononis tridentata*)—see *Ononis*.

Three-toothed Whitlow-grass (*Draba tridentata*)—see *Draba*.

Three-winged Valerian (*Valeriana tripteris*)—see *Valeriana*.

Thrift (*Armeria vulgaris*)—see *Armeria*.

Thrinax.—*Ord.* *Palmaceæ*. Stove orn. foliage plant. *Nat. W. Indies.* *Int.* 1778. *Ht.* 7 to 12 ft. *Species* cultivated, 7. *Leaves*, fan-shaped, green. *Compost*, two parts loam, one part peat, & little sand. *Position*, well drained pots in moist part of stove. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Moist atmosphere* highly essential. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds soaked for a few hours in tepid water & then sown $\frac{1}{2}$ in. deep in sandy loam in temp. of 75° to 85° any time.

Throat-wort (*Trachelium cæruleum*, *Campanula cervicaria*, & *Digitalis purpurea*)—see *Trachelium*, *Campanula*, & *Digitalis*.

Thunbergia.—*Ord.* *Acanthaceæ*. Stove & greenhouse evergreen shrubs, climbers, or trailing annuals & perennials. *Nat.* S. Africa, Madagascar, Mysore, India, West Africa, Sierra Leone, Fernando Po. *Int.* 1796. *Ht.* 3 to 20 ft. *Species* cultivated, 3 annuals; about 12 perennial climbers; 1 shrub. *Flowers*, white, orange, purple, blue, scarlet; fragrant; spring & sum. **CULTURE OF ANNUAL SPECIES** (*T. alata*, etc.): *Compost*, two parts loam, one part leaf-mould or decayed manure, & one part sand. *Sow* seeds thinly in light compost in a well drained pot, pan, or box, in temp. 65° to 75°, in Feb. or Mar. *Transplant* seedlings when three leaves form singly in 3 $\frac{1}{2}$ -in. pots, & later on into 5-in. size. *Place* pots afterwards alongside of staging, & let shoots hang down; or in baskets suspended from roof. *May* also be planted outdoors in June against sunny walls, in window boxes, or in vases. *Water* freely. *Apply* weak stimulants occasionally when in flower. **CULTURE OF SHRUBBY AND PERENNIAL SPECIES** (*T. erecta*, *T. laurifolia*, *T. mysorensis*, etc.): *Compost*, equal parts leaf-mould or well decayed manure, peat, fibrous loam, & silver sand. *Position*, well drained pots in shady part of stove during growing period; light part during the resting period for *T. erecta*; well drained beds with shoots trained up roof for *T. laurifolia*, etc. *Pot*, Feb. or Mar. *Prune* moderately. Feb. *Water* freely, Mar. to Sept.; moderately,

Sept. to Nov.; keep nearly dry, Nov. to Mar. *Syringe* daily, Mar. to Sept. Apply stimulants occasionally, May to Sept. *Temp.*, Feb. to Oct., 65° to 75°; Oct. to Feb., 55° to 65°. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in sandy peat & leaf-mould in temp. 75° to 85°, Jan. to May; cuttings of firm young shoots, 2 to 3 in. long, inserted in leaf-mould, peat, & sand under bell-glass in temp. 75° to 85°, Feb. to June.

Thunberg's Lily (*Lilium Thunbergianum*)—see *Lilium*.

Thunderbolt Iris (*Iris Xiphium*)—see *Iris*.

Thunia.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* N. India, Trinidad, Mountains of Moulmein, Burmah. *Int.* 1836. *Ht.* 1 to 2 ft. *Species* cultivated, 8; varieties several. *Flowers*, white, purple, yellow, mauve; sum. *Compost*, equal parts rough fibrous peat, loam, & silver sand. *Position*, light part of stove. *Pot.*, Mar. *Water* moderately when young growths appear; freely when 3 to 4 in. long; keep quite dry after growth has completed & leaves fallen off. *Growth* requires full exposure to sun. *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*, Mar. to Oct.; *resting period*, Oct. to Mar. *Propagate* by division of pseudo-bulbs at potting time; also by cutting up old stems into pieces about 6 in. long & inserting them in above compost singly in small pots in temp. 65° to 75°, Sept. or Oct.

Thuya (*Arbor-vitæ*).—*Ord.* Coniferae. Hardy evergreen trees & shrubs. *Orn. foliage.* *Nat.* N. America, China, Japan, & Nootka Sound. *Int.* 1596. *Ht.* 10 to 150 ft. *Species* cultivated, 6; varieties numerous. *Leaves*, small, scale-like. *Habit*, pyramidal. *Soil*, deep, moist loam. *Position*, open sunny shrubberies, lawns, banks, or margins of water. *Plant*, Sept. to Nov., & Feb. to Ap. *Prune*, Ap. or Sept. *Depth* for planting roots, 6 to 8 in. *POT CULTURE*: *Compost*, two parts loam & one part leaf-mould. *Pot.*, Sept. or Oct. *Position*, cold frame, window sill, or cold greenhouse, Nov. to May; plunged to rim of pots in ashes or fibre refuse in sunny spot outdoors afterwards. *Water* freely, Ap. to Oct.; moderately afterwards. *HEDGE CULTURE*: *Suitable kinds*—*T. gigantea*, *T. occidentalis*, & *T. orientalis*. *Soil*, ordinary moist, previously trenched 3 spits deep & 3 ft. wide. *Plant*, Sept., Oct., Mar. or Ap. *Distance apart for planting*: 15 to 18 in. *Height of trees*: 18 in. to 4 ft. *Prune*, trim, or clip, Ap. or Sept. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 55° in spring, transplanting seedlings in open ground when large enough to handle, by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or in cold frame in Sept.; grafting in Mar.

Thuopsis.—*Ord.* Coniferae. Hardy evergreen tree. *Orn. foliage.* *Nat.* Japan. *Int.*, date unknown. *Ht.* 20 to 40 ft. *Species* cultivated, 1; varieties 2. *Leaves*, scale-like, broad, green above, silvery beneath. *Habit*, pyramidal. *Soil*, deep, moist loam. *Position*, open sunny shrubberies, lawns, banks, or margins of water. *Plant*, Sept. to Nov., Feb. to Ap. *Prune*, Ap. or Sept. *Depth* for planting roots, 6 to 8 in. *POT CULTURE*: *Compost*, two parts loam & one part leaf-mould. *Pot.*, Sept. or Oct. *Position*, cold frame, window sill, or cold greenhouse, Nov. to May; plunged to rim of pots in ashes or fibre refuse in sunny spot outdoors afterwards. *Water* freely, Ap. to Oct.; moderately afterwards. *HEDGE CULTURE*: *Suitable kinds*—*T. gigantea*, *T. occidentalis*, & *T. orientalis*. *Soil*, ordinary moist, previously trenched 3 spits deep & 3 ft. wide. *Plant*, Sept., Oct., Mar., or Ap. *Distances apart for planting*: 15 to 18 in. *Height of trees*: 18 in. to 4 ft. *Prune*, trim, or clip, Ap. or Sept. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in sandy soil in temp. 55° in spring, transplanting seedlings in open ground when large enough to handle; by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil under bell-glass or in cold frame in Sept.; grafting in Mar.

Thyme (*Thymus vulgaris*)—see *Thymus*.

Thyme-leaved Fuchsia (*Fuchsia thymifolia*)—see *Fuchsia*.

Thyme-leaved Globe Daisy (*Globularia cordifolia nana*)—see *Globularia*.

Thyme-leaved Rhododendron (*Rhododendron chamaecistus*)—see *Rhododendron*.

Thyme-leaved Sun-rose (*Helianthemum thymifolium*)—see *Helianthemum*.

Thyme Oil Plant (*Thymus vulgaris*)—see *Thymus*.

Thymus (Garden & Lemon-scented Thyme).—*Ord.* Labiatae. Hardy aromatic shrubby perennial. *Shoots* used largely for culinary purposes. *Nat.* S. Europe. *Int.* 1548. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, rosy purple; June. *Soil*, light, rich ordinary. *Position*, sunny warm border. *Plant*, 4 in. apart in rows 8 in. asunder, Mar. or Ap. *Replant* every 3 or 4 years. *Gather* shoots when blossoms appear, & dry for winter use. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in lines 8 in. apart in Ap., thinning seedlings to 4 in. apart in May or June; by division of the plant in Mar. or Ap., each portion being furnished with a few roots.

Thysacanthus (Thyrse Flower).—*Ord.* Acanthaceae. Stove evergreen flowering shrubs. *Nat.* New Grenada, Mexico, Bhotan, W. Indies, Columbia, Honduras. *Int.* 1823. *Ht.* 2 to 3 ft. *Species* cultivated, 8. *Flowers*, red, white, purple, crimson; Nov. to Mar. *Compost*, equal parts peat, loam, leaf-mould, & sand. *Position*, well drained pots in light stove, Sept. to June; sunny frame, June to Sept. *Pot*, Mar. or Ap. *Water* moderately, Sept. to Mar.; freely other times. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to June, 65° to 75°. *Prune* shoots to 1 in. of base after flowering. *Nip* off points of young shoots occasionally, May to Aug., to induce bushy growth. *Apply* liquid or artificial manure twice a week to plants in flower. *Propagate* by cuttings of young shoots inserted singly in small pots of sandy soil under bell-glass in temp. 75°, Mar. to July.

Thyrse-flower (*Thysacanthus rutilans*)—see *Thysacanthus*.

Tiarella (False Mitre-wort).—*Ord.* Saxifragaceae. Hardy perennial herb. *Nat.* N. America. *Int.* 1731. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, white; Ap. *Soil*, ordinary. *Position*, sunny rockeries or flower borders. *Plant*, Mar. or Ap. *Propagate* by division of roots in Mar. or Ap.

Tick Bean (*Faba vulgaris equina*)—see *Faba*.

Tick-seed (*Coreopsis tinctoria*)—see *Coreopsis*.

Tick-seed Sun-flower (*Coreopsis trichosperma*)—see *Coreopsis*.

Tick Trefoil (*Desmodium gyrans*)—see *Desmodium*.

Tickle-my-fancy (*Viola tricolor*)—see *Viola*.

Tiger-chop (*Mesembryanthemum tigrinum*)—see *Mesembryanthemum*.

Tiger Flower (*Tigridia pavonia*)—see *Tigridia*.

Tiger Iris (*Tigridia pavonia*)—see *Tigridia*.

Tiger Lily (*Lilium tigrinum*)—see *Lilium*.

Tiger's-tail Spruce (*Picea polita*)—see *Picea*.

Tigridia (Tiger Flower, Tiger Iris).—*Ord.* Iridaceae. Half-hardy or greenhouse bulbs. *Nat.* Mexico, Peru. *Int.* 1796. *Ht.* 1 to 2 ft. *Species* cultivated, 7; varieties several. *Flowers*, purple, yellow, white, crimson, scarlet, violet; May to Sept. *Blooms* last in perfection but one day only. **OUTDOOR CULTURE:** *Soil*, equal parts rich loam & leaf-mould with little sand in. partially shaded bed prepared by digging out soil to depth of 24 in.; place 6 in. of brickbats or clinkers in bottom & remainder compost; or for ordinary culture an open sunny border & any good soil. *Plant* bulbs 3 in. deep, 5 to 6 in. apart, placing little sand under & around each in Ap. *Mulch* with decayed manure & cocoanut-fibre refuse when 3 in. high. *Water* freely in dry weather. *Leaf* bulbs in Oct., tie in small bundles, & suspend in cool, airy, frost-proof place until following Ap. **POT CULTURE:** *Compost*, two parts sandy loam,

one part peat, & one part sand. *Pot* the bulbs singly in $\frac{1}{4}$ -in. pots in Mar. or Ap. *Cover* pots with cinder ashes or cocoanut-fibre refuse in cold frame or under stage in cold greenhouse until growth begins, then remove to light. *Water* moderately after growth begins; freely when well advanced. *Apply* weak stimulants occasionally when flower stems show. *Position* when in flower, light airy greenhouse or cold sunny frame. *After flowering*, gradually withhold water until foliage turns yellow, then keep quite dry. *Remove* bulbs from soil, tie into bundles & suspend in cool place until potting time following Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light compost in temp. 55° to 85° , spring; by offsets removed & treated as advised for old bulbs in Ap.

Tilia (Lime Tree, Linden Tree, American Wood, Bass Wood).—*Ord.* Tiliaceæ. Hardy deciduous trees. Orn. foliage. *Nat.* Europe (Britain), N. America. *Ht.* 20 to 60 ft. *Species* cultivated, about 7; varieties several. *Flowers*, white, yellow; fragrant; sum. *Leaves*, heart-shaped, green or variegated. *Soil*, good ordinary or loamy, moist. *Position*, sunny. *Plant*, Oct. to Mar. *Prune*, Nov. to Feb. *Not* suitable for dry soils or exposed places. *Propagate* by layering shoots in autn.; choice kinds by grafting on common species in Mar.

Tillandsia (Old Man's Beard, Spanish Moss).—*Ord.* Bromeliaceæ. Stove epiphytal perennials. *Nat.* Southern Tropical America. *Int.* 1790. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 76. *Flowers*, blue, violet, yellow, green, white, scarlet; winter. *Bracts*, rosy crimson, pink, purplish green. *Compost*, equal parts fibrous loam, rough peat, silver sand, & leaf-mould. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* daily, Ap. to Sept. *Moist* atmosphere essential in sum. *Temp.*, Sept. to Mar., 60° to 70° ; Mar. to Sept., 70° to 80° . *Propagate* by offsets inserted in small pots of sandy peat in temp. 75° to 85° in spring.

Tinus-leaved Daphne (*Daphne tinifolia*)—see *Daphne*.

Titmouse Walnut (*Juglans regia*—thin-shelled var.)—see *Juglans*.

Toad-cup Lily (*Marica cœrulea*)—see *Marica*.

Toad-Flax (*Linaria vulgaris*)—see *Linaria*.

Toad-flower (*Stapelia bufonia*)—see *Stapelia*.

Toad Lily (*Fritillaria nigra*)—see *Fritillaria*.

Tobacco Plant (*Nicotiana tabacum*)—see *Nicotiana*.

Toddy Palm (*Caryota urens*)—see *Caryota*.

Todea (Crape Fern).—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* Australia, New Zealand, S. Africa. *Int.* 1861. *Ht.* 1 to 6 ft. *Species* cultivated, 4; varieties several. *Fronds*, finely or coarsely divided; dark green; mostly semi-transparent. *Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone, & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringing* unsuitable. *Moist* atmosphere & shade most essential. *Temp.*, 55° to 65° , Mar. to Sept.; 45° to 55° , Sept. to Mar. *T. superba* & *T. pellucida* suitable for cold houses. *T. africana* & *T. Froomei*, not filmy ferns, hence require less atmospheric moisture. **CULTURE IN CASES:** *Compost*, as above. *Position*, shady window, not exposed to sun. *Pot* or plant, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Ventilate* case few minutes daily. *Suitable kinds*, *T. superba* & *T. pellucida*. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Tolmia.—*Ord.* Saxifragaceæ. Hardy perennial herb. *Nat.* N. W. America. *Int.* 1812. *Ht.* 1 to 2 ft. *Species* cultivated, 1. *Flowers*, green; Ap. *Calyx*, purple-nerved. *Soil*, ordinary. *Position*, sunny rockeries or flower borders. *Plant*, Mar. or Ap. *Propagate* by division of roots, Mar. or Ap.

Tolpis (Yellow Garden Hawkweed).—Hardy annuals *Nat.* S.

Europe. *Int.* 1620. *Ht.* 1 to 4 ft. *Species* cultivated, 7. *Flowers*, yellow, purple; *sum.* *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{4}$ in. deep in patches or lines where required to grow; thin seedlings when 2 to 3 in. high to 6 or 8 in. apart.

Tomato (*Lycopersicum esculentum*)—see *Lycopersicum*.

Tom Thumb Fuchsia (*Fuchsia pumila*)—see *Fuchsia*.

Tom Thumb Lily (*Lilium tenuifolium*)—see *Lilium*.

Tongue-blade (*Ruscus hypoglossum*)—see *Ruscus*.

Tongue-grass (*Lepidium sativum*)—see *Lepidium*.

Tonquin Bean (*Dipterix odorata*)—see *Dipterix*.

Tooth-ache-tree (*Xanthoxylum fraxineum*)—see *Xanthoxylum*.

Tooth-cress (*Dentaria bulbifera*)—see *Dentaria*.

Tooth-leaved Blue-bush (*Ceanothus dentatus*)—see *Ceanothus*.

Tooth-violet (*Dentaria bulbifera*)—see *Dentaria*.

Tooth-wort (*Dentaria bulbifera*)—see *Dentaria*.

Toothed Bladder Fern (*Cystopteris dentata*)—see *Cystopteris*.

Toothed False Dragon's-head (*Physostegia denticulata*)—see *Physostegia*.

Toothed-flowered St. John's-wort (*Hypericum angulosum*)—see *Hypericum*.

Toothed-leaved Primrose (*Primula denticulata*)—see *Primula*.

Toothed-leaved Water-lily (*Nymphaea dentata*)—see *Nymphaea*.

Toothed Pink (*Dianthus dentosus*)—see *Dianthus*.

Torch Lily (*Tritoma uvaria*)—see *Tritoma*.

Torch Thistle (*Cereus strigosus*)—see *Cereus*.

Torenia.—*Ord.* Scrophulariaceæ. *Stove* annuals. *Nat.* India, China, Cochin China. *Int.* 1811. *Species* cultivated, 3 annuals; 5 perennials. *Flowers*, blue, white, lilac, violet, yellow; *sum.* *Compost*, equal parts loam & leaf-mould, one part equal proportions of sand & charcoal. *Position*, small pots with shoots trained to sticks, or in baskets suspended from roof. *Sow* seeds thinly in compost of equal parts peat, loam, leaf-mould, & sand, in Jan. or Feb. *Cover* with sprinkling of fine soil, & place in temp. 55° to 65°. *Transplant* seedlings when three leaves form $\frac{1}{2}$ in. apart in well drained pots filled with above compost. *Place* seedlings when 1 to 3 in. high singly in small pots, & transfer when well rooted to 5-in. pots, or three in a 6 in. size. *Nip* off point of main shoot when 3 in. long, also of side shoots when 2 in. long to induce bushy growth. *Water* freely. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Annual* species (*T. asiatica*, *T. Fourneri*, etc.) may be grown as perennials, propagating the plants by cuttings of young shoots 3 in. long, inserted in sandy soil, in temp. 55° to 65° in spring or sum.

Torreya (Stinking Yew, Stinking Cedar, Californian Nutmeg.—*Ord.* Coniferae. *Nat.* California, China, Japan, Florida. *Int.* 1840. *Ht.* 20 to 40 ft. *Species* cultivated, 4. *Soil*, light, sandy loam. *Position*, sheltered sunny, well drained shrubberies. *Plant*, Sept., Oct., Mar. or Ap. *Seldom* grown in England; too tender. *Propagate* as advised for *Taxus*.

Torrey's Pentstemon (*Pentstemon Torreyi*)—see *Pentstemon*.

Totara Pine-tree (*Podocarpus totara*)—see *Podocarpus*.

Touch-me-not (*Impatiens noli-me-tangere*)—see *Impatiens*.

Tough-leaved Iris (*Iris tenax*)—see *Iris*.

Tournefortia (Summer Heliotrope).—*Ord.* Boraginaceæ. *Greenhouse* flowering shrubs. *Nat.* Caucasus, Buenos Ayres. *Int.* 1800. *Ht.* 2 to 4 ft. *Species* cultivated, 2. *Flowers*, yellow, lilac; *sum.* *Compost*, equal parts light loam, leaf-mould & sand. *Position*, pots or beds, with shoots growing loosely or trained to trellis, walls, pillars or rafters in greenhouse; in sunny beds outdoors, June to Sept., or in pots in windows. *Pot.*, Feb. to May.

Plant, outdoors; June. **Lift & repot**, Sept. **Water** freely, Mar. to Oct.; moderately afterwards. **Apply** liquid or artificial manure to healthy plants in flower. **Prune** old plants in closely in Feb. **Training**: Nip off points of main, also lateral shoots when 3 in. long, to form dwarf plants; points of main shoots when 12 in. long, & side shoots when 3 to 6 in. long, to form pyramids; points of main shoots when 2 ft. long, & of lateral shoots at apex when 3 to 6 in. long—all side shoots to within 4 in. of apex to be removed altogether—to form standards. **Temp.**, Feb. to Oct., 60° to 70°; Oct. to Feb., 50° to 55°. **Pot** plants do best in cold frame or sunny position outdoors, July & Aug. **Propagate** by seeds sown $\frac{1}{4}$ in. deep in well drained pots or pans of light soil in temp. 65° to 75° in Mar.; by cuttings of shoots, 2 to 3 in. long, inserted in pots of sandy soil under bell-glass, or in propagator in temp. 65° to 75° in Mar., Ap., Aug. or Sept.

Tournefort's Nettle-tree (*Celtis Tourneforti*)—see *Celtis*.

Towel Gourd (*Luffa ægyptiaca*)—see *Luffa*.

Town-cress (*Lepidium sativum*)—see *Lepidium*.

Toxicophlœa (Winter Sweet).—**Ord.** Apocynaceæ. Greenhouse evergreen shrubs. *Nat. S. Africa. Int. 1737. Ht. 4 to 6 ft. Species* cultivated, 2. *Flowers*, white, yellow; fragrant; Nov. to Ap. **Compost**, equal parts loam & leaf-mould with little charcoal & sand. **Position**, well drained pots in warm moist stove. **Pot**, Feb. or Mar. **Water** freely, Mar. to Oct.; moderately afterwards. **Syringe** daily, Ap. to Sept. **Shade** from sun. **Apply** weak stimulants occasionally; May to Sept. **Prune**, Feb., shortening straggling shoots only. **Temp.**, Ap. to Oct., 60° to 70°; Oct. to Ap., 50° to 55°. **Propagate** by cuttings inserted in light peaty soil under bell-glass in temp., 55°, spring or sum.

Trachelium (Blue Throat-wort).—**Ord.** Campanulaceæ. Hardy herbaceous perennial. *Nat. Italy. Int. 1640. Ht. 1 to 2 ft. Species* cultivated, 1; variety 1. *Flowers*, blue, white; Aug. **Compost**, two parts sandy loam, one part leaf-mould. **Position**, sunny rockeries. **Plant**, Mar. or Ap. **Protect** in severe weather by covering of dry fern fronds. **Propagate** by seeds sown in above compost, lightly covered with fine light mould, place in temp. of 55° to 65°, spring, transplant seedlings when large enough to handle, harden in cold frame & plant out, May or June; cuttings of young shoots inserted in sandy soil under bell-glass in Ap. or Sept.

Trachylopermum—see *Rhyncospermum*

Tradescantia (Spider-wort, Flower-of-a-Day).—**Ord.** Commelinaceæ. Stove, greenhouse, & hardy herbaceous perennials. *Nat. Mexico, Brazil, Jamaica, Peru, N. Carolina, Guatemala, Florida. Int. 1629. Ht. 1 to 2 ft. Species* cultivated, 20 stove; 4 greenhouse; 5 hardy. *Flowers*, blue, white, lilac; sum. **CULTURE OF STOVE SPECIES**: **Compost**, equal parts loam, peat, leaf-mould, & sand. **Position**, in pots or baskets suspended from the roof, or in beds under stage or on rockeries. **Pot** or plant, Jan. to Ap. **Water** freely, Mar. to Oct.; moderately afterwards. **Shade** from sun. **Moist atmosphere** essential. **Temp.**, for stove species, 55° to 65°, Oct. to Ap.; 70° to 85°, Ap. to Oct.; greenhouse species, 40° to 50°, Oct. to Ap.; 55° to 65°, Ap. to Oct. **CULTURE OF HARDY SPECIES**: **Soil**, ordinary. **Position**, partially shady or sunny borders or beds. **Plant**, Oct., Nov., Mar. or Ap. **Lift**, divide, & replant every 3 or 4 years. **Excellent** plants for town gardens. **Propagate** stove & greenhouse species by cuttings of young shoots inserted in light soil under bell-glass in above temp. any time of year; hardy species by division of roots, Mar. or Ap.

Tragacanth Gum-plant (*Astragalus tragacantha*)—see *Astragalus*.

Tragopogon (Salsafy, Vegetable Oyster).—**Ord.** Compositæ. Hardy biennial esculent-rooted vegetable. *Nat. N. Europe. Ht. 2 to 3 ft. Species* cultivated, 1. *Flowers*, purple, May & June. **Roots** long, tapering, white internally & externally. **Soil**, ordinary fine, rich, deeply trenched, free

from stones. *Position*, sunny, open. *Sow* seeds in groups of three or four, 12 in. apart, in drills $\frac{1}{2}$ in. deep, & 18 in. apart in Ap. *Thin* seedlings when 3 in. high to one in each group. *Remove* flower heads as soon as seen. *Lift* the roots in Oct., twist off their leaves, & store in layers with sand or soil between in cellar or outhouse until required for cooking. *Artificial manures* for: $2\frac{1}{2}$ lbs. kainit, 1 lb. sulphate of ammonia, $2\frac{1}{2}$ lbs. of guano mixed per square rod (30 $\frac{1}{2}$ sq. yards), applied before sowing in spring. Requires to be raised from seed annually for producing roots for culinary purposes.

Trailing Arbute Tree (*Epigæa repens*)—see *Epigæa*.

Trailing Broom (*Genista humifusa*)—see *Genista*.

Trailing Fuchsia (*Fuchsia procumbens*)—see *Fuchsia*.

Trailing Lobelia (*Lobelia erinoides*)—see *Lobelia*.

Trailing Toad-flax (*Linaria supina*)—see *Linaria*.

Trailing Whortle-berry (*Vaccinium humifusum*)—see *Vaccinium*.

Trailing Wolf's-bane (*Aconitum rectinatum*)—see *Aconitum*.

Transparent Trumpet Lily (*Lilium eximium*)—see *Lilium*.

Trapa (Water Caltrops, Water Chestnut, Jesuit's Nut).—*Ord.* Onagraceæ. Stove & hardy aquatic floating herbs. *Nat.* India, Ceylon, Persia, S. Europe. *Int.* 1781. *Species* cultivated, 1 stove; 2 hardy. *Flowers*, insignificant. *CULTURE OF STOVE SPECIES*: Soil, rich loam. *Position* in large shallow tub in cistern of water in warm stove. *Plant*, any season. *Temp.*, Ap. to Oct., 70° to 85°; Oct. to Ap., 55° to 65°. *CULTURE OF HARDY SPECIES*: Soil, rich loamy. *Position*, sunny; shallow pots or tubs in cool greenhouse. *Plant*, Ap. or May. *Propagate* by seeds sown in loamy soil in water in temp. of 65° to 75° in spring.

Traveller's Joy (*Clematis vitalba*)—see *Clematis*.

Traveller's Tree (*Ravenala madagascariensis*)—see *Ravenala*.

Treacle Clover (*Psoralea bituminosa*)—see *Psoralea*.

Treacle Mustard (*Erysimum cheiranthoides*)—see *Erysimum*.

Treacle Wormseed (*Erysimum cheiranthoides*)—see *Erysimum*.

Treasure-flower (*Gazania pavonia*)—see *Gazania*.

Tree Celandine (*Bocconia frutescens*)—see *Bocconia*.

Tree Cinquefoil (*Potentilla frutescens*)—see *Potentilla*.

Tree Club-moss (*Selaginella cæsia-arborea*)—see *Selaginella*.

Tree Cotton-plant (*Gossypium arboreum*)—see *Gossypium*.

Tree Dahlia (*Dahlia imperialis*)—see *Dahlia*.

Tree Germander (*Teucrium fruticans*)—see *Teucrium*.

Tree Heath (*Erica arborea*)—see *Erica*.

Tree Horsetail (*Casuarina equisetifolia*)—see *Casuarina*.

Tree House-leek (*Sempervivum arboreum*)—see *Sempervivum*.

Tree Lupin (*Lupinus arboreus*)—see *Lupinus*.

Tree Mallow (*Lavatera arborea*)—see *Lavatera*.

Tree Mignonette (*Reseda odorata*)—see *Reseda*.

Tree-of-Chastity (*Vitex agnus-cæstus*)—see *Vitex*.

Tree-of-Heaven (*Ailantus glandulosus*)—see *Ailantus*.

Tree-of-the-Gods (*Ailantus glandulosus*)—see *Ailantus*.

Tree-of-the-Sun (*Retinospora obtusa*)—see *Retinospora*.

Tree Onion (*Allium cepa proliferum*)—see *Allium*.

Tree Pæony (*Pæonia moutan*)—see *Pæonia*.

Tree Poke (*Phytolacca dioica*)—see *Phytolacca*.

Tree Primrose (*Oenothera biennis*)—see *Oenothera*.

Tree Rest-harrow (*Ononis arborescens*)—see *Ononis*.

Tree Rhododendron (*Rhododendron arboreum*)—see *Rhododendron*.

Tree Sage (*Salvia arborea*)—see *Salvia*.

Tree Thorn-apple (*Datura arborea*)—see *Datura*.

Tree Thorough-wax (*Bupleurum fruticosum*)—see *Bupleurum*.

Tree Trefoil (*Cytisus laburnum*)—see *Cytisus*.

Tree Violet (*Viola arborescens*)—see *Viola*.

Tree Whortle-berry (*Vaccinium arborescens*)—see *Vaccinium*.

Tree Worm-wood (*Artemisia arborescens*)—see *Artemisia*.

Tremandra.—*Ord.* Tremandraceæ. Greenhouse evergreen flowering shrub. *Nat.* W. Australia. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, purplish; *sum.* *Compost*, two parts fibrous peat, one part turfy loam, one part equal proportions charcoal, broken pots, & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot.* Feb. or Mar. *Water* moderately at all seasons; rain water only to be used. *Shade* from sun., June to Sept. *Temp.*, Oct. to Ap., 40° to 50°; Ap. to Oct., 50° to 65°. *Propagate* by cuttings of side shoots inserted in sand under bell-glass in shade in temp. of 55° to 65° in *sum.*

Triangular-stemmed Broom (*Genista triquetra*)—see *Genista*.

Trichocentrum.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Tropical America *Int.* 1820. *Ht.* 6 to 12 in. *Species* cultivated, about 7. *Flowers*, cinnamon, white, purple, yellow, brown, magenta; Oct. to May. *Position*, attached by means of copper wire to blocks of soft wood, rafts, or tree fern stems, & suspended from roof. No moss or peat required. *Water* freely twice daily by dipping block, etc., into vessel of tepid water, Ap. to Sept.; once daily afterwards. *Shade* from sun. *Moist* atmosphere essential during *sum.* *Temp.*, Mar. to Sept., 75° to 85°; Sept. to Mar., 60° to 70°. *Propagate* by division of pseudo-bulbs.

Trichomanes (Killarney Fern, Bristle Fern).—*Ord.* Filices. Greenhouse filmy ferns. *Nat.* Ireland, N. America, New Zealand, West Indies, Mauritius, Borneo, Luzon, B. Guiana, New Grenada. *Ht.* 3 to 12 in. *Species* cultivated, about 40. *Fronds*, more or less divided, semi-transparent. *Compost*, equal parts peat, loam, leaf-mould, charcoal, sandstone, & silver sand. *Position*, moist, shady, in damp recesses of rockeries, under bell-glasses or in cases. *Plant*, Mar. *Water* freely, Mar. to Oct.; moderately, Oct. to Mar. *Syringing* unsuitable. *Damp* atmosphere & shade most essential. *Temp.*, 55° to 65°, Mar. to Sept.; 45° to 55°, Sept. to Mar. *CULTURE IN CASES IN ROOMS*: *Compost*, as above. *Position*, shady window, not exposed to sun. *Plant*, Mar. *Top-dress* with fresh compost annually in Mar. *Water* freely, Ap. to Sept.; moderately afterwards. *Ventilate* case few minutes daily. *Species* most suitable, *T. radicans*. *Propagate* by spores sown on surface of sandy peat in shallow pan covered with bell-glass in temp. 65° to 75° at any time; by division of plant at potting time.

Trichopilia.—*Ord.* Orchidaceæ. Greenhouse evergreen epiphytal orchids. *Nat.* Peru, Central America, Mexico, New Grenada, Chiapas. *Int.* 1821. *Ht.* 3 to 6 in. *Species* cultivated, about 15. *Flowers*, white, yellow, crimson, purple, brown, rose; more or less fragrant; various seasons. *Compost*, equal parts fibrous peat, fresh sphagnum moss, charcoal, & clean crocks. *Position*, well drained pots with base of plant slightly elevated above rim, or in basket suspended from roof of light greenhouse close to glass. *Pot.* Feb. or Mar., or immediately new growth begins. *Water* moderately, Mar. to Sept.; very little afterwards. *Moist* atmosphere essential in *sum.* *Shade* from sun. *Growing period*, Mar. to Sept.; *resting period*, Sept. to Mar. *Temp.*, May to Sept., 55° to 65°; Sept. to Feb., 45° to 55°; Feb. to May, 60° to 60°. *Propagate* by division of pseudo-bulbs at potting time.

Trichosanthes (Snake Gourd, Serpent Cucumber, Viper Gourd).—*Ord.* Cucurbitaceæ. Greenhouse annual climbers. *Nat.* India, Japan, China, W. Indies. *Int.* 1735. *Ht.* 4 to 10 ft. *Species* cultivated, about 4. *Flowers*, white; May to July. *Fruit*, very long, cucumber-like, twisted. *Compost*, equal parts sandy loam, leaf-mould, & fibrous peat. *Position*, well drained

pots with shoots trained up roof of sunny greenhouse. Sow seeds singly 1 in. deep in 2-in. pots filled with above compost, placed in temp. 65° to 75°, Feb. or Mar. Transplant seedlings when three leaves form into 4½-in. pots, & when well rooted into 8-in. size. Water freely; use tepid water only. Syringe daily, May to Sept. Shade from mid-day sun. Apply weak stimulants twice a week, May to Sept. Temp., 60° to 70°.

Trichosma.—*Ord.* Orchidaceæ. Stove epiphytal orchid. *Nat.* Kihasya Mountains. *Int.* 1840. *Ht.* 9 to 12 in. *Species* cultivated, 1. *Flowers*, creamy, white, crimson; fragrant; Feb. to May. *Compost*, equal parts fresh sphagnum moss & fibry peat. *Position*, pots or pans half filled with potsherds, & placed close to glass. *Pot*, Feb. or Mar.; keep base of plant well above rim of pot or pan. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Nov. 65° to 75°; Nov. to Mar., 60° to 70°. *Water* freely, Mar. to Aug.; moderately, Aug. to Nov.; very little, Nov. to Mar. *Growing period*, Mar. to Aug.; *resting period*, Sept. to Feb. *Propagate* by division of bulbs at potting time.

Tricyrtis (Japanese Toad Lily).—*Ord.* Liliaceæ. Half-hardy perennials. *Nat.* Japan, China, Himalayas. *Int.* 1851. *Ht.* 1 to 4 ft. *Species* cultivated, 3. *Flowers*, white, yellow, green, striped with purple or red; May and June. **GREENHOUSE CULTURE:** *Compost*, equal parts sandy loam, peat, & silver sand. *Position*, well drained pots in cool greenhouse or cold frame. *Pot*, Oct. to Mar. *Plunge* pots to rim in cocoanut-fibre refuse or cinder ashes in cool greenhouse or cold frame, & give no water till growth commences, then apply moderately. When stems are 3 in. high, place plants in light airy position in greenhouse. No shade required. Apply weak stimulants once a week during flowering period. After flowering gradually withhold water till foliage turns yellow, then keep dry, & store pots away in cold frame or under staging in cool greenhouse until Feb. or Mar. **OUTDOOR CULTURE:** *Soil*, peaty. *Position*, partially shady sheltered moist border. *Plant* rhizomes 2 in. below surface, Oct. to Mar. *Protect* in severe weather with covering of litter. *Plants* grown outdoors do not flower until autn. *Propagate* by offsets removed at planting or potting time.

Trientalis (Chickweed Winter Green, Star Flower).—*Ord.* Primulaceæ. Hardy herbaceous perennials. *Nat.* Europe (Britain), N. W. America. *Ht.* 4 to 6 in. *Species* cultivated, 2. *Flowers*, white; May. *Soil*, ordinary light rich. *Position*, shady borders, margins of rhododendron beds, rockeries or woodlands. *Plant*, Nov. to Ap. *Propagate* by seeds sown in light rich soil, lightly covered with fine mould under hand-light in shady position outdoors in Ap.; division of roots, Nov. or Mar.

Trifolium (Clover, Trefoil, Alsike Clover, Bastard Clover, Bastard Lupine, Buffalo Clover, Oval-headed Clover).—*Ord.* Leguminosæ. Hardy annuals & perennials. *Nat.* Britain, European Alps, Western Asia, N. America, California, Siberia. *Ht.* 6 to 18 in. *Species* cultivated, 3 annuals; 9 perennials. *Flowers*, purple, crimson, rose, carmine, yellow, brown; June to Sept. **CULTURE OF ANNUAL SPECIES** (*T. incarnatum*, *T. reflexum*, *T. fucatum*): *Soil*, ordinary, containing a little old mortar or pounded limestone. *Position*, sunny borders. Sow seeds ½ in. deep in patches where required to grow & flower. Thin seedlings when three leaves form, 3 to 4 in. apart. **CULTURE OF PERENNIAL SPECIES** (*T. alpestre*, *T. uniflorum*, *T. lupinastre*, etc.): *Soil*, as above. *Position*, sunny rockeries for *T. alpestre* & *T. uniflorum*; borders for other kinds. *Plant*, Oct. to Ap. *Propagate* perennial species by seeds sown broadcast in ordinary soil in sunny border outdoors in Ap.; transplanting seedlings when large enough to handle into permanent positions; by division of plants, Oct. or Mar.

Trigonella (Fenugreek).—*Ord.* Leguminosæ. Hardy annuals. *Nat.* Switzerland, S. of France. *Int.* 1562. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, white, blue; June to Aug. *Leaves*, feather-shaped. *Soil*, ordinary.

Position, sunny borders. Sow seeds in Ap. in patches lightly covered with fine mould. *Thin* seedlings when three leaves form to 6 in. apart.

Trillium (American Wood Lily, Three-leaved Nightshade, Beth-root, Birth-root, Lamb's Quarters, Indian Shamrock).—*Ord.* Liliaceæ. Hardy tuberous-rooted perennials. *Nat.* N. America. *Int.* 1700. *Ht.* 6 to 18 in. *Species* cultivated, about 9; varieties several. *Flowers*, red, white, purple, green; Ap. to July. *Soil*, sandy peat. *Position*, shady moist well drained border. *Plant*, Aug. to Nov. *Top-dress* annually in Mar. with layer of decayed leaves. *Lift*, & replant only when absolutely necessary. *Propagate* by seeds sown in shallow well drained boxes or pans filled with sandy peat, cover seeds lightly with fine mould & place in shady cold frame; division of tuberous roots, Aug. to Nov.

Triplet Lily (*Tritelia uniflora*)—see *Tritelia*.

Trip-madam (*Sedum reflexum*)—see *Sedum*.

Tripoli Crowfoot (*Ranunculus asiaticus sanguineus*)—see *Ranunculus*.

Tripoly (*Aster tripolium*)—see *Aster*.

Tritelia (Triplet Lily, Ithuriel's Spear, Lilac Star-flower, Murray's Star-flower).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* Monte Video, California, Chili, Buenos Ayres. *Int.* 1832. *Ht.* 6 in. *Species* cultivated, 5. *Flowers*, yellow, blue, white, violet, lilac; Jan. to July. **OUTDOOR CULTURE:** *Soil*, deep loam. *Position*, sunny well drained rockeries or borders. *Plant* bulbs 3 in. deep & 2 in. apart in masses, Sept. to Nov. & Feb. & Mar. *Protect*, Oct. to Mar. by covering of cinder ashes, cocoanut-fibre refuse, or old manure. *Lift* & replant bulbs every four or five years. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould & sand. *Pot*, Sept. to Nov., placing bulbs 1 in. deep & 1 in. apart in 5-in. pots. *Position*, cold frame from time of potting till growth begins, then remove to light, cool greenhouse. *Cover* pots entirely with cinder ash or cocoanut-fibre refuse until growth begins. *Water* when growth commences, moderately at first, freely afterwards. *Keep* dry after flowers fade & foliage turns yellow. *Re-pot* annually. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in well drained pots, pans, or baskets of sandy soil in cold frame or greenhouse, Feb. to Ap.; offsets removed & treated as old bulbs at potting or planting time.

Trithrinax.—*Ord.* Palmaceæ. Stove orn. foliage plants. *Nat.* Rio Grande, Brazil. *Int.* 1875. *Ht.* 6 to 10 ft. *Species* cultivated, 2. *Leaves*, roundish oval; green. *Compost*, two parts loam, one part peat & little sand. *Position*, well drained pots in moist part of stove. *Water* copiously, Ap. to Oct.; moderately afterwards. *Syringe* daily, Ap. to Sept. *Moist* atmosphere highly essential. *Shade* from sun. *Temp.*, Mar. to Oct., 70° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds soaked for a few hours in tepid water & then sown $\frac{1}{2}$ in. deep in sandy loam in temp. of 75° to 85°, any time.

Tritoma—see *Kniphofia*.

Tritonia.—*Ord.* Iridaceæ. Hardy deciduous bulbous plants. *Nat.* S. Africa. *Int.* 1758. *Ht.* 2 to 3 ft. *Species* cultivated, 15; hybrids & varieties several. *Flowers*, red, yellow, purple; sum. **OUTDOOR CULTURE:** *Soil*, equal parts sandy loam, leaf-mould, & decayed manure. *Position*, sunny well drained borders. *Plant* 3 in. deep & 2 in. apart in masses, Oct. to Mar. *Protect*, Nov. to Mar., by covering of dry litter. *Mulch* in Mar. with layer of decayed manure, first removing litter. *Water* occasionally in very dry weather. *Apply* stimulants occasionally during flowering period. *Lift* & replant bulbs annually. **POT CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould or decayed cow manure. *Pots*, 4 $\frac{1}{2}$ in. in diameter, well drained. *Place* 5 bulbs 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame, or under cool greenhouse stage until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 60°; other times, 50° to 60°. *Propagate* by offsets treated as advised for bulbs.

Trollius (Globe Flower, Globe Ranunculus).—*Ord.* Ranunculaceæ. Hardy herbaceous perennials. *Nat.* Britain, N. America, Siberia, Caucasus, Cashmere. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 10; varieties several. *Flowers*, yellow; May to Aug. *Soil*, deep moist ordinary or preferably loam. *Position*, partially shady borders or margins of ponds or streams. *Plant*, Oct. to Ap. *Water* freely in dry weather. *Lift*, divide, & replant every 3 or 4 years. *Propagate* by seeds sown in moist loamy soil in shady position outdoors in Sept. or Ap.; division of roots, Oct. to Ap.

Tropæolum (Garden Nasturtium, Indian Cress, Flame Flower, Canary Creeper).—*Ord.* Geraniaceæ. Greenhouse or hardy annual or perennial dwarf or climbing herbs. **CANARY CREEPER** (*T. peregrinum*): Half-hardy perennial, but will only succeed treated as an annual when grown outdoors. *Nat.* Peru & Mexico. *Int.* 1810. *Ht.* 3 to 10 ft. *Flowers*, yellow; sum. *Soil*, good ordinary mould or sandy loam. *Position*, against sunny or shady wall, fence, arbour, or trellis; does well on a north aspect. *Sow* seeds $\frac{1}{2}$ in. deep in light soil in temp. 55° in Mar., harden off seedlings in cold frame in Ap. & plant outdoors in May; or $\frac{1}{2}$ in. deep outdoors in Ap. where required to grow. *Water* freely in dry weather. **COMMON OR GARDEN NASTURTIUM** (*T. majus*): Hardy annual. *Nat.* Peru. *Int.* 1686. *Ht.* 5 to 10 ft. *Varieties*, numerous. *Flowers*, crimson, yellow; single & double; June to Oct. *Climbing kinds*: *Soil*, ordinary. *Position*, sunny or shady walls, fences, arbours, or window boxes. *Sow* seed 1 in. deep in Ap. where plants are required to grow. *Remove* seed pods as they form to ensure free flowering. *Dwarf kinds*: *Soil*, ordinary, not over rich. *Position*, sunny or shady borders or beds. *Sow* seeds 1 in. deep & 3 in. apart in lines or masses in Ap. Thin seedlings to 6, 9, or 12 in. apart when 3 in. high if fine plants are desired. *Remove* seed pods unless seed is required. *Pot Culture*: *Sow* seeds $\frac{1}{2}$ in. deep & 2 in. apart in 5-in. pots filled with a compost of two parts good mould & one part decayed manure in Ap. Place pots in window or cold frame. *Water* moderately at first; freely when in full growth. *Apply* stimulants occasionally when in flower. *Double varieties* propagated by cuttings in temp. 55° in spring. *Plant* outdoors in May or June. May be grown in pots in a compost of two parts loam, one part leaf-mould, & little sand. *Pot* in Mar. or Ap. *Water* freely in sun.; moderately other times. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to June, 55° to 65°. **T. LOEBLIANTUM**: Half-hardy herbaceous perennial. *Nat.* Columbia. *Int.* 1843. *Ht.* 6 to 10 ft. *Flowers*, orange scarlet; sum. & winter. *Outdoor Culture*: *Sow* seeds in light soil in temp. 55° in Mar., harden seedlings off in cold frame in Ap., & plant out in June in sunny position against walls, fences, arbours, or in borders, placing tree branches to support the shoots; or outdoors $\frac{1}{2}$ in. deep in Ap. where required to grow. *Indoor Culture*: *Compost* two parts sandy loam, one part leaf-mould, or decayed manure & half a part sand. *Position*, well drained pots or beds, training shoots up rafters. *Water* moderately, Sept. to Ap.; freely afterwards. *Propagate* by cuttings of shoots, 2 to 3 in. long, inserted in sandy soil in temp. 55° to 65° in spring. *Temp.*, Sept. to Mar., 50° to 60°; Mar. to Sept., 65° to 75°. **GREENHOUSE TUBEROUS-ROOTED SPECIES** (*T. azureum*, Chili, 1842, blue, Oct., 3 ft.; *T. Jaratti*, Santiago, 1836, scarlet & yellow, June, 12 ft.; *T. tricolorum*, Chili, 1828, scarlet, black, & orange, June to Oct., 5 to 10 ft.): *Compost*, equal parts decayed turfy loam, leaf-mould, peat, & silver sand. *Position*, well drained pots in light airy greenhouse. *Pot*, Aug. to Nov. *Place* one tuber only in a pot & bury this about 1 in. *Water* very little till plants grow freely, then give an abundant supply. *Withhold* water entirely when foliage turns yellow & until growth recommences. *Apply* stimulants occasionally when plants are in flower. *Train* shoots to wire trellis fixed in pot or up rafters. *Temp.*, Nov. to Feb., 40° to 50°; Feb. to June, 55° to 65°. *After growth ceases*, store pots in cool place till potting time. *Propagate* by seeds sown in light sandy soil in temp. 55° to 65° in spring; cuttings of shoots inserted in sandy soil in temp. 55° to 65° in spring or sum. **HARDY TUBEROUS-ROOTED SPECIES** (*T. pentaphyllum*, Buenos Ayres, 1829, purple, vermillion, July, 4 ft.; *T. tuber-*

osum, Peru, 1827, yellow & red, Sept., 3 ft.; *T. speciosum*, Chili, 1846, scarlet, sum., 5 to 10 ft.; *T. polyphyllum*, Chili, 1827, yellow, June, trailing): *Soil*, light sandy loam for *T. pentaphyllum*; ordinary mould for *T. polyphyllum*; equal parts loam, peat, leaf-mould, & sand for *T. speciosum*; poorish mould for *T. tuberosum*. *Position*, south wall or fence for *T. pentaphyllum*; sunny bank for *T. polyphyllum*; partially-shaded wall or hedge for *T. speciosum*; sunny border for *T. tuberosum*. *Plant*, *T. tuberosum* in Mar. or Ap.; *T. polyphyllum*, Aug. to Nov.; *T. speciosum* & *T. pentaphyllum*, Oct. or Mar. *Water* freely in dry weather. *Mulch* with decayed manure in Oct. *Lift* tubers of *T. tuberosum* in Oct., store in sand in frost-proof place till Mar.; leave others undisturbed. *Propagate* by seeds sown in loam, leaf-mould, & sand in cold frame in Ap.; division of roots at planting time.

Tropical Duck-weed (*Pistia stratiotes*)—see *Pistia*.

True Box (*Buxus sempervirens arborescens*)—see *Buxus*.

True-love (*Paris quadrifolia*)—see *Paris*.

Truffle Oak (*Quercus pubescens*, *Q. robur*, & *Q. lanuginosa*)—see *Quercus*.

Trumpet Creeper (*Tecoma radicans*)—see *Tecoma*.

Trumpet-flower (*Tecoma radicans* & *Bignonia venusta*)—see *Tecoma* & *Bignonia*.

Trumpet Gourd (*Lagenaria clavata*)—see *Lagenaria*.

Trumpet Honeysuckle (*Lonicera sempervirens*)—see *Lonicera*.

Trumpet Leaf (*Sarracenia purpurea*)—see *Sarracenia*.

Trumpet Lily (*Lilium longiflorum* & *Richardia athiopica*)—see *Lilium* & *Richardia*.

Trumpet Reed (*Arundo occidentalis*)—see *Arundo*.

Trumpet Weed (*Eupatorium purpureum*)—see *Eupatorium*.

Trumpets (*Sarracenia flava*)—see *Sarracenia*.

Tube-flowered Clematis (*Clematis tubulosa*)—see *Clematis*.

Tube-spotted Zephyr-flower (*Zephyranthes tubispatha*)—see *Zephyranthes*.

Tube-tongue (*Salpiglossis sinuata*)—see *Salpiglossis*.

Tuberose (*Polianthes tuberosa*)—see *Polianthes*.

Tuberose-flowered Tobacco-plant (*Nicotiana affinis*)—see *Nicotiana*.

Tuberose Oil-plant (*Polianthus tuberosa*)—see *Polianthus*.

Tuberous-rooted Begonia (*Begonia tuberosa*)—see *Begonia*.

Tuberous-rooted Crane's-bill (*Geranium tuberosum*)—see *Geranium*.

Tuberous-rooted Nasturtium (*Tropæolum tuberosum*)—see *Tropæolum*.

Tube-flower (*Clerodendron siphonanthus*)—see *Clerodendron*.

Tuberous-rooted Pea (*Orobis tuberosa*)—see *Orobis*.

Tuberous-rooted Swallow-wort (*Asclepias tuberosa*)—see *Asclepias*.

Tuberous-rooted Wistaria (*Apios tuberosa*)—see *Apios*.

Tuber-root (*Asclepias tuberosa*)—see *Asclepias*.

Tufted Bell-flower (*Campanula cæspitosa*)—see *Campanula*.

Tufted Cinquefoil (*Potentilla cæspitosa*)—see *Potentilla*.

Tufted Evening Primrose (*Oenothera cæspitosa*)—see *Oenothera*.

Tufted Loose-strife (*Lysimachia thyrsiflora*)—see *Lysimachia*.

Tufted Phlox (*Phlox cæspitosa*)—see *Phlox*.

Tufted Sand-wort (*Arenaria cæspitosa*)—see *Arenaria*.

Tufted Saxifrage (*Saxifraga cæspitosa*)—see *Saxifraga*.

Tufted Soap-wort (*Saponaria cæspitosa*)—see *Saponaria*.

Tufted Whortle-berry (*Vaccinium cæspitosum*)—see *Vaccinium*.

Tulip (*Tulipa gesneriana*)—see *Tulipa*.

Tulip-tree (*Liriodendron tulipifera*)—see *Liriodendron*.

Tulipa (Tulip, Dalmatian Cap).—*Ord.* Liliaceæ. Hardy bulbous rooted plants. *Nat.* England, Siberia, Persia, Levant, Japan, Turkestan, Italy, S. France, Greece, Algeria, Smyrna, Altai Mountains. *Ht.* 6 in. to 2 ft. *Species* cultivated, about 47; varieties innumerable. *Flowers*, various; spring & sum. *Parent of florists' tulip*—*T. Gesneriana*, nat. Levant, int. 1577. **CLASSIFICATION OF FLORISTS' TULIP**: *Seedlings*—bulbs that have not flowered. *Breeders or Self*—Seedlings or offsets from bulbs that have flowered & promise to develop into a good strain of one of the following classes. *Broken*.—Breeder tulips developing stripes of another colour. *Feathered*.—Having a light, heavy, or irregular dark coloured edge to the petals. *Flamed*.—Having a dark candle-flame-like spot in the centre of each petal. *Bizarres*.—Yellow petals marked with another colour. *Byblomens*.—White, marked with shades of black, violet, or purple. *Roses*.—White, marked with red. **CLASSIFICATION OF ORDINARY TULIPS**: *Early*.—Flowering in Mar. Example, Duc Van Thol. *Late*.—Flowering in May. Ex. *Alba maxima*. *Mother*.—Same as Breeders, Self-coloured. *Darwin*.—A superior strain of self-coloured tulips. *Parrot*.—Curiously-coloured blooms with large feathery-edged petals. **OUTDOOR CULTURE OF ORDINARY TULIPS**: *Soil*, light, ordinary, previously liberally enriched with well decayed manure. *Position*, sunny well drained beds or borders. *Plant* bulbs 4 in. deep & 6 in. apart, Oct. to Dec. *Mulch* surface of bed with decayed manure or cocoanut-fibre refuse. *Lift* bulbs directly after flowering & replant them in sunny reserve border to finish their growth; or leave until July, then lift, dry, & store away in cool place till planting time. *Bulbs* may be left in ground altogether if desired, lifting, dividing, & replanting every three years. **POT CULTURE**: *Compost*, two parts loam, one part decayed manure, & little sand. *Pot*, Sept. to Nov., placing three bulbs in a 5-in. or four in a 6-in. pot, & burying bulbs just below surface. *Pot* firmly. *Cover* pots with cinders or cocoanut-fibre refuse in cold frame. *Remove* to window, frame or greenhouse when growth begins & water freely. *Temp.* for forcing, 55° to 65°. **CULTURE OF EXHIBITION KINDS**: *Compost*, four parts good turfy loam, one part leaf-mould, one part decayed cow manure, & one part sand, mixed together & allowed to remain in a heap for one year. *Position*, well drained sunny bed, containing about 18 in. of above compost. *Plant* bulbs 3 to 4 in. deep & 6 in. apart end of Oct. or beginning of Nov. Surround each bulb with sand. *Protect* blooms with canvas awnings. *Lift* bulbs when leaves turn brown. *Store* in cool shed to dry, after which remove loose skins & place in drawers till planting time. **CULTURE OF HARDY SPECIES** (*T. Greigi*, *T. Chusiana*, etc.): *Soil*, light rich ordinary. *Position*, sunny borders or rockeries. *Plant*, Sept. to Nov., 3 in. deep & 6 in. apart. *Lift*, divide, & replant every four or five years. **MOTHER, DARWIN, AND PARROT TULIPS**: Culture as for ordinary tulips outdoors. *Propagate* by seeds sown in Feb. in light sandy soil in a cold frame; transplanting following year in bed of rich soil outdoors; by offsets removed from parent bulbs & planted 3 in. deep in a bed of light rich soil in a sunny position outdoors in Nov. Seedling bulbs flower when four to six years old; offsets when three to four years old.

Tumeric-root (*Hydrastis canadensis*)—see *Hydrastis*.

Tunbridge Filmy Fern (*Hymenophyllum Tunbridgensis*)—see *Hymenophyllum*.

Turban Bellflower (*Campanula trachelium*)—see *Campanula*.

Turban Lily (*Lilium pomponium*)—see *Lilium*.

Turfing Daisy (*Pyrethrum Tchihatchewi*)—see *Pyrethrum*.

Turkestan Dwarf Rose (*Rosa rugosa*)—see *Rosa*.

Turkestan Tulip (*Tulipa turkestanica* & *T. Greigi*)—see *Tulipa*.

Turkey Alder (*Alnus oblongata*)—see *Alnus*.

- Turkey-berry** (*Solanum mammosum* & *S. torvum*)—see *Solanum*.
Turkey-corn (*Corydalis formosa*)—see *Corydalis*.
Turkey Crow-foot (*Ranunculus asiaticus*)—see *Ranunculus*.
Turkey Oak (*Quercus cerris*)—see *Quercus*.
Turkey-pea (*Corydalis formosa*)—see *Corydalis*.
Turkey Rhubarb (*Rheum palmatum*)—see *Rheum*.
Turkey's-beard (*Xerophyllum asphodeloides*)—see *Xerophyllum*.
Turk's Cap Cactus (*Melocactus communis*)—see *Melocactus*.
Turk's Cap Lily (*Lilium martagon*)—see *Lilium*.
Turk's-head Grass (*Lagurus ovatus*)—see *Lagurus*.
Turmeric-plant (*Curcuma longa*)—see *Curcuma*.
Turnip (*Brassica rapa depressa*)—see *Brassica*.
Turnip Cabbage (*Brassica napo-brassica*)—see *Brassica*.
Turnip Radish (*Raphanus raphanistrum*)—see *Raphanus*.
Turnip-rooted Cabbage (*Brassica caulo-rapa*)—see *Brassica*.
Turnip-rooted Celery (*Apium graveolens rapaceum*)—see *Apium*.
Turnsole (*Heliotropium Peruvianum*)—see *Heliotropium*.
Turquoise-berried Vine (*Vitis heterophylla humulifolia*)—see *Vitis*.
Turtle-broom (*Chelone glabra*)—see *Chelone*.
Turtle-head (*Chelone glabra*)—see *Chelone*.
Tuscan Crocus (*Crocus etruscus*)—see *Crocus*.
Tuscan Honeysuckle (*Lonicera etrusca*)—see *Lonicera*.
Tussilago (Variegated Coltsfoot).—*Ord.* Compositæ. **Hardy** herbaceous perennial. *Orn. foliage.* *Nat. Britain.* *Ht.* 6 in. *Species* cultivated, variegated variety only (*T. farfara variegata*). *Leaves*, roundish heart-shaped, margined or spotted with creamy white. *Compost*, two parts loam, one part leaf-mould & sand. *Pot, Mar.* *Position*, cold greenhouse, frame, or window. *Water* freely, Ap. to Oct.; keep nearly dry afterwards. *May* be grown outdoors in damp shady borders and ordinary soil. *Plant, Mar.* *Propagate* by division, Mar.
Tutsan (*Hypericum androsaenum*)—see *Hypericum*.
Twelve-o'clock-flower (*Abutilon americanum*)—see *Abutilon*.
Twiggy Purple Loose-strife (*Lythrum virgatum*)—see *Lythrum*.
Twiggy St. John's-wort (*Hypericum virgatum*)—see *Hypericum*.
Twiggy Sun-rose (*Helianthemum virgatum*)—see *Helianthemum*.
Twiggy Whortle-berry (*Vaccinium virgatum*)—see *Vaccinium*.
Twin-flower (*Linnæa borealis*)—see *Linnæa*.
Twin-flowered Dragon's-head (*Dracocephalum peregrinum*)—see *Dracocephalum*.
Twin-flowered Lady's-Slipper (*Cypripedium insigne*)—see *Cypripedium*.
Twin-flowered Rest-harrow (*Ononis geminiflora*)—see *Ononis*.
Twin-flowered Violet (*Viola biflora*)—see *Viola*.
Twin-leaf (*Jeffersonia diphylla*)—see *Jeffersonia*.
Twisted-branched Pine-tree (*Pinus contorta*)—see *Pinus*.
Twisted Daffodil (*Narcissus tortuosus*)—see *Narcissus*.
Twisted Elm (*Ulmus campestris tortuosa*)—see *Ulmus*.
Twisted Shell-flower (*Chelone obliqua*)—see *Chelone*.
Two-coloured Begonia (*Begonia discolor*)—see *Begonia*.
Two-coloured Collinsia's-flower (*Collinsia bicolor*)—see *Collinsia*.
Two-coloured Daffodil (*Narcissus bicolor*)—see *Narcissus*.
Two-coloured-leaved Hydrangea (*Hydrangea arborescens discolor*)—see *Hydrangea*.
Two-flowered Crocus (*Crocus biflorus*)—see *Crocus*.

Two-flowered Daffodil (*Narcissus biflorus*)—see *Narcissus*.

Two-flowered Laburnum (*Cytisus biflorus*)—see *Cytisus*.

Two-flowered Rest-harrow (*Ononis biflora*)—see *Ononis*.

Two-flowered Tulip (*Tulipa biflora*)—see *Tulipa*.

Two-leaved Tooth-wort (*Dentaria diphylla*)—see *Dentaria*.

Twopenny Grass (*Lysimachia nummularia*)—see *Lysimachia*.

Two-rowed Day-lily (*Hemerocallis disticha*)—see *Hemerocallis*.

Two-seeded Holly (*Ilex diphyrena*)—see *Ilex*.

Two-spiked Acacia (*Acacia lophantha*)—see *Acacia*.

Two-spined Flowering Gooseberry (*Ribes diacantha*)—see *Ribes*.

Two-winged-fruited Snowdrop-tree (*Halesia diptera*)—see *Halesia*.

Tydaea.—*Ord.* Gesneraceæ. Stove herbaceous flowering & orn. foliage plants. *Nat.* New Grenada. *Int.* 1855. *Species* cultivated, 1; hybrids & varieties many. *Flowers*, rose, yellow, crimson, purple; striped; spring & sum. *Leaves*, oval, pointed; green or crimson. *Compost*, two parts fibrous peat, one part loam, one part leaf-mould, with a little decayed manure & silver sand. *Position*, well drained pots or pans in shady part of plant stove. *Pot*, Mar. to flower in sum.; May to flower in autn.; June to flower in winter. *Place* rhizomes 1 in. deep singly in 5-in. pots, or 1 to 2 in. apart in larger sizes. *Water* moderately from time growth begins until plants are 3 or 4 in. high, then freely. *After flowering* gradually withhold water till foliage dies down, then keep dry till potting time. *Apply* weak liquid manure once or twice a week when flower buds show. *Syringing* not required. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Mar., 55° to 75°. *Store* when foliage has died down on their sides under stage till potting time in temp. of 50° to 55°. *Propagate* by seeds sown on surface of well drained pots of sandy peat. in temp. 75° to 85°; cuttings of young shoots inserted in pots of sandy peat in temp. 75° to 85° in spring; fully matured leaves pegged on surface of pots of sandy peat in temp. 75° to 85°; division of underground rhizomes at potting time.

Tyerman's Groundsel (*Senecio pulcher*)—see *Senecio*.

Tyle-berry (*Jatropha multifida*)—see *Jatropha*.

Typha (Reed Mace, Bullrush, Cat-o'-nine-tails, Flax-tail).—*Ord.* Typhaceæ. Hardy aquatic perennials. *Nat.* Britain. *Ht.* 3 to 7 ft. *Species* cultivated, 2. *Inflorescence*, brown; July. *Soil*, ordinary. *Position*, margins of shallow rivers or ponds. *Plant*, Oct. or Mar., by division.

Ugni Shrub (*Eugenia ugni*)—see *Eugenia*.

Ulex (Furze, Gorse, Whin).—*Ord.* Leguminosæ. Hardy evergreen shrubs. *Nat.* Europe (Britain). *Ht.* 1 to 3 ft. *Species* cultivated, 3; varieties several. *Flowers*, yellow: Feb. to Mar. & July to Nov. *Soil*, ordinary. *Position*, sunny banks, rockeries, or woodlands. *Plant*, Sept. to Ap. **HEDGE CULTURE**: *Plant*, 18 in. apart in single row. *Trim* sides in moderately close in Ap. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil outdoors in Ap.; cuttings inserted in ordinary soil in shady position outdoors, spring or autn.

Ulmus (Elm, Wych Elm).—*Ord.* Urticaceæ. Hardy deciduous trees. *Nat.* Europe (Britain), N. America, Siberia, China, Japan. *Ht.* 2 to 80 ft. *Species* cultivated about 9; varieties numerous. *Flowers*, insignificant. *Leaves*, green or variegated. *Soil*, ordinary for common species (*U. campestris*); deep rich loamy with gravelly subsoil for Wych Elm (*U. montana*); moist loamy for American Elm (*U. americana*). *Position*, open & sunny woodlands, parks, or shrubberies for all species & varieties. *Plant*, Oct. to Feb. *Propagate* by suckers removed & planted, Oct. to Nov.; layering shoots in Sept. or Oct.; budding choice kinds on common species, & choice variegated kinds on *U. montana* in July, or by grafting similarly in Mar.; seeds gathered as soon as ripe & sown in light soil in shady position outdoors.

Umbel-flowered Broom (*Genista umbellata*)—see *Genista*.

Umbel-flowered Lily (*Lilium umbellatum*)—see *Lilium*.

Umbel-flowered Squill (*Scilla umbellata*)—see *Scilla*.

Umbel-flowered Sun-rose (*Helianthemum umbellatum*)—see *Helianthemum*.

Umbelled Lychnis (*Lychnis flos-jovis*)—see *Lychnis*.

Umbelled Winter-green (*Pyrola umbellata*)—see *Pyrola*.

Umbilicus (Navel-wort).—*Ord.* Crassulaceæ. Hardy evergreen succulent-leaved plants. *Nat.* Britain, Spain, Sicily, Siberia, Turkestan. *Ht.* 6 to 12 in. *Species* cultivated, about 11. *Flowers*, yellow, purple, white; June. *Soil*, equal parts sandy loam & peat. *Position*, crevices or recesses of sunny rockeries. *Plant*, Mar. to June. *Propagate* by seeds sown on surface of above soil in well drained pan or pot in temp. 55° to 65° in Mar.; cuttings of leaves with base inserted in well drained pots of sandy soil in Aug., Sept., or Oct. in temp. 55° to 65°; cuttings of side shoots inserted as advised for leaves in June, in temp. 55° to 60°. Do not water leaves or cuttings until they begin to shrivel.

Umbrella Fir (*Sciadopitys verticillata*)—see *Sciadopitys*.

Umbrella Palm (*Kentia canterburyana*)—see *Kentia*.

Umbrella Pine (*Sciadopitys verticillata*)—see *Sciadopitys*.

Umbrella Plant (*Saxifraga peltata*)—see *Saxifraga*.

Umbrella Tree (*Magnolia tripetala*)—see *Magnolia*.

Underground Bean (*Arachis hypogæa*)—see *Arachis*.

Underground Onion (*Allium cepa aggregatum*)—see *Allium*.

Unicorn-plant (*Martynia lutea* & *M. proboscidea*)—see *Martynia*.

Unicorn-root (*Veltheimia viridifolia*)—see *Veltheimia*.

Uniola (Sea Oat).—*Ord.* Graminaceæ. Hardy perennial grasses. Orn. flowering. *Nat.* N. America. *Int.* date unknown. *Ht.* 4 to 8 ft. *Species* cultivated, 2. *Inflorescence* borne in large loose panicles, July & Aug. *Plant*, Mar. or Ap. *Position*, open sunny borders. *Gather* inflorescence & dry for winter use in Aug. *Propagate* by seeds sown in light rich soil outdoors in Ap.; by division of roots in Mar.

Upland Bone-set (*Eupatorium sessilifolium*)—see *Eupatorium*.

Upland Willow Oak (*Quercus cinerea*)—see *Quercus*.

Upright Adam's Needle (*Yucca stricta*)—see *Yucca*.

Upright Birthwort (*Aristolochia clematitis*)—see *Aristolochia*.

Upright-branched Elm (*Ulmus suberosa erecta*)—see *Ulmus*.

Upright-branched Sun-rose (*Helianthemum strictum*)—see *Helianthemum*.

Upright Clover (*Trifolium strictum*)—see *Trifolium*.

Upright Cypress (*Cupressus sempervirens stricta*)—see *Cupressus*.

Upright Golden Rod (*Solidago stricta*)—see *Solidago*.

Upright Heath (*Erica stricta*)—see *Erica*.

Upright Indian Cypress (*Cupressus Whitleyana*)—see *Cupressus*.

Upright Indian Silver Fir (*Picea Pindrow*)—see *Picea*.

Upright Italian Myrtle (*Myrtus communis italica*)—see *Myrtus*.

Upright Medlar (*Mespilus germanica stricta*)—see *Mespilus*.

Upright Vetch (*Vicia oroboides*)—see *Vicia*.

Upright Yellow-flowered Wood-sorrel (*Oxalis stricta*)—see *Oxalis*.

Urala St. John's-wort (*Hypericum uralum*)—see *Hypericum*.

Urceolina (Golden Urn-flower, Drooping Urn-flower).—*Ord.* Amaryllidaceæ. Greenhouse deciduous bulbous plants. *Nat.* S. America. *Int.* 1836. *Ht.* 12 to 18 in. *Species* cultivated, 13. *Flowers*, yellow, green, scarlet; June to Sept. *Compost*, two parts turfy loam, one part river sand & a few crushed bones. *Position*, well drained pots in light part of house. *Pot.* Feb., burying

bulb about two-thirds of its depth. *Water* freely from time growth begins (about Feb.) until Sept., when keep quite dry. *Apply* liquid manure when flower spike shows. *Top-dress* annually & repot every three or four years only. *Temp.*, Feb. to Sept., 55° to 65°; Sept. to Feb., 40° to 50°. *Propagate* by seeds sown $\frac{1}{8}$ in. deep in well drained pots of sandy loam in temp. 65° to 70° in Mar., placing seedlings singly in 2-in. pots & keeping them moderately moist all the year round for three years; by offsets treated as old bulbs.

Urn-flower (*Urceolina pendula*)—see *Urceolina*.

Urospermum.—*Ord.* Compositæ. Hardy biennial herb. *Nat. S. Europe.* *Int.* 1739. *Ht.* 12 to 18 in. *Species* cultivated, 1. *Flowers*, yellow: June. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds $\frac{1}{8}$ in. deep in patches outdoors where required to grow & flower; thin seedlings when 2 in. high to 6 in. apart.

Utricularia (Bladderwort).—*Ord.* Lentibulariaceæ. Stove, greenhouse & hardy aquatic, terrestrial, or epiphytal herbs. *Nat.* Europe (Britain), Hong Kong, Costa Rica, Guiana. *Species* cultivated, 4 hardy; 1 greenhouse; 2 stove. *Flowers*, yellow, lilac, purple; Ap. to Aug. **CULTURE OF HARDY SPECIES** (*U. intermedia*, *U. minor*, *U. vulgaris*): Procure wild plants from deep pools, etc., & place them in ponds in spring; or in deep pans of water containing living sphagnum moss & keep in cold greenhouse. **CULTURE OF STOVE AND GREENHOUSE SPECIES**: *Compost*, equal parts fibrous peat, sphagnum moss, & crocks. *Position*, well drained pots or shallow pans placed on inverted pots in saucer of water under bell-glass or handlight in shade. *Pot*, Mar. or Ap. *Water* freely, Ap. to Sept.; moderately afterwards. *Admit* air for a few minutes daily every morning by tilting bell-glass or handlight. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 55°, for greenhouse species; Oct. to Mar., 55° to 65°; Mar. to Oct., 70° to 85°, for stove species. *Propagate* by seeds sown on surface of shallow pans filled with equal parts of sphagnum moss, peat, & sand, placed under bell-glass & kept moist in temp. of 55° to 65°, Feb., Mar., or Ap.; division of plants at potting or planting time.

Uvi Yam (*Dioscorea elata*)—see *Dioscorea*.

Uvularia (Bell-wort).—*Ord.* Liliaceæ. Hardy bulbous plants. *Nat.* N. America. *Int.*, 1710. *Species* cultivated, 4. *Ht.* 12 in. *Flowers*, yellow, purple; May & June. *Soil*, moist peat. *Position*, partially shaded border. *Plant*, Oct. & Nov. *Propagate* by division of roots in Oct.

Vaccinium (Whortleberry, Blueberry, Bilberry, Huckleberry, Moorberry, Fenberry, Bogberry, Cranberry, Flowering Box).—*Ord.* Vacciniaceæ. Stove, greenhouse & hardy deciduous & evergreen flowering or berry-bearing shrubs. *Nat.* Britain, N. America, Madeira, Java, Bolivia. *Ht.* 3 in. to 6 ft. *Species* cultivated, 2 stove; 3 greenhouse; about 20 hardy. *Flowers*, white, yellow, red, pink, purple, green, crimson, rose; spring. *Berries*, red, bluish black; edible; Aug. to Oct. **CULTURE OF STOVE SPECIES** (*V. Rollisoni*, etc.): *Compost*, equal parts sandy loam & peat, & little sand. *Position*, well drained pots in light part of stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar., 55° to 65°. **CULTURE OF GREENHOUSE SPECIES** (*V. erythrinum*, etc.): *Compost* as for stove species. *Position*, well drained pots in light part of greenhouse, Sept. to May; sunny position outdoors, May to Sept. *Pot*, Mar. *Prune* into shape, Feb. *Water* copiously, Mar. to Sept.; moderately afterwards. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to May, 55° to 65°. **CULTURE OF HARDY SPECIES** (*V. vitus-idaea*, etc.): *Soil*, boggy peat. *Position*, moist rockeries for *V. vitus-idaea*, *V. myrtillus* & *V. cespitosum*; moist borders for *V. myrtilloides*, *V. virgatum*, etc. *Plant*, Sept., Oct., Mar. or Ap. No pruning required. *Propagate* stove & greenhouse species by cuttings of shoots inserted in sandy moist peat under bell-glass in spring or sum. Hardy species by seeds sown in shallow boxes or pans filled with moist

sandy peat in temp. of 55° to 65° in spring, transplanting seedlings outdoors in sum.; cuttings of shoots inserted in sandy moist peat under handlight in shade in sum.; layering shoots in autn.; division of plants, Sept. or Mar.

Valencia Buckthorn (*Rhamnus valetinus*)—see *Rhamnus*.

Valerian (*Valeriana officinalis*)—see *Valeriana*.

Valeriana (*Valerian*, All-heal, Herb Bennet, St. George's Herb, Marsh Valerian, Mountain Valerian, Cretan Spikenard).—*Ord.* Valerianaceæ. Hardy perennial herbs. Flowering & orn. foliage. *Nat.* Europe (Britain). *Ht.* 6 in. to 3 ft. *Species* cultivated, about 4; varieties 1. *Flowers*, rose, pink; June to Sept. *Leaves*, feather-shaped, green, or golden yellow. *Soil*, ordinary. *Position*, sunny borders for *V. officinalis* & *V. Phu aurea*; sunny rockeries for *V. dioica* & *V. montana*. *Plant*, Sept. to Ap. *Leaf*, divide, & replant every three or four years. *Top-dress* annually with decayed manure in Ap. *Cut* down flowering stems in Oct. *V. Phu aurea* has beautiful golden foliage; flower buds should be picked off as they form. *Propagate* by seeds sown 1 in. deep in light soil in sunny position outdoors in Ap.; division of roots in Mar. or Ap.

Valerianella (*Corn Salad*, Italian *Corn Salad*, Lamb's Lettuce).—*Ord.* Valerianaceæ. Hardy annual salad vegetable. *Nat.* Britain. *Ht.* 6 in. *Species* cultivated, 1. *Flowers*, blue; Ap. *Leaves*, largely used in winter and spring for salads. *Soil*, ordinary. *Position*, sunny dryish border. *Sow* seeds in drills, 1 in. deep & 6 in. apart fortnightly during Aug. & Sept. *Thin* seedlings when three leaves form to 6 in. apart in the row. *Gather* leaves either separately or by cutting off the entire plant.

Vallisneria (*Bel Grass*, *Tape Grass*).—*Ord.* Hydrocharidaceæ. Half-hardy aquatic herb. *Nat.* S. Europe. *Int.* 1818. *Species* cultivated, 1. *Flowers*, white; minute; July. *Leaves*, long, narrow. *Soil*, rich loam. *Position*, deep tubs, cisterns, or aquariums filled with water. *Plant* in small pot or in heap of compost in bottom of tank, etc., Mar. or Ap. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to Sept., 60° to 75°. *Propagate* by seeds sown in moist loam in water; spring; division, Mar. or Ap.

Valloia (*Scarboro' Lily*).—*Ord.* Amaryllidaceæ. Greenhouse evergreen bulbous plants. *Nat.* S. Africa. *Int.* 1774. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties 4. *Flowers*, scarlet; Aug. to Oct. **INDOOR CULTURE:** *Compost*, equal parts good fibrous loam, leaf-mould, & sand. *Position*, well drained pots in light sunny greenhouse or window. *Pot* dry bulbs, Oct., Nov., Mar. or Ap. *Repot* established plants in June or July. *Place* bulbs with points just below the surface; pot firmly. *Water* moderately, Sept. to Mar.; freely, Mar. to June; keep nearly dry, June to Sept. *Apply* stimulants once or twice a week, Mar. to June. *Established* plants do best placed in sunny cold frame, or on layer of cinder ashes or slate, tile, or board in open air, May till flowering period. *Repotting* necessary every three or four years only. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to June, 55° to 65°. **OUTDOOR CULTURE:** *Soil*, light sandy loam. *Position*, warm well drained border at foot of S. wall. *Plant* bulbs, Oct., Nov., Mar. or Ap., 6 in. deep & surround with sand. *Press* soil firmly round bulbs. *Protect* in winter with a covering of dry litter or fern fronds. *Propagate* by offsets removed at potting or planting time.

Vanda (*Cowslip-scented Orchid*).—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* E. Indies, Malay Archipelago, China, Tropical Australia. *Int.* 1810. *Ht.* 1 to 6 ft. *Species* cultivated, 28; varieties several. *Flowers*, yellow, crimson, lilac, brown, violet, purple, white, rose; fragrant; various periods. *Compost*, clean potsherds & fresh sphagnum moss only. *Position*, teak baskets suspended from roof, or pots filled three parts of their depth with potsherds, remainder sphagnum moss; or on rafts of teak wood. *V. teres* does best with its stems secured to a branch of apple or oak fixed firmly in a pot. *Pot*, place in baskets or on rafts in Mar. *In* potting or basketing insert the roots carefully among the potsherds, & finish off with a layer of fresh sphagnum moss. *Water* copiously daily, Mar. to Oct.; moderately after-

wards. *Plants* on rafts require to be dipped for a few moments daily in water. *Expose* plants fully to the sun all the year round. *Moist atmosphere* highly essential, Mar. to Oct. *Growing period*, Mar. to Oct. *Temp.*, Oct. to Mar., 60° to 70°; Mar. to Oct., 75° to 85°. *Propagate* by cutting tops off, furnished with one or two roots of tall plants, or by removing young growths with roots attached from base of plants in Feb. or Mar., & potting or placing in baskets as advised for old plants.

Van Houtte's Bell-flower (*Campanula Van Houttei*)—see *Campanula*.

Vanilla.—*Ord.* Orchidaceæ. Stove climbing orchid. *Nat.* Madagascar, W. Indies, La Guayra, Demarara. *Int.* 1800. *Ht.* 3 to 10 ft. *Species* cultivated, 4. *Flowers*, red, yellow, green, white; fragrant; sum. *Seed pods* form the vanilla of commerce. *Compost*, equal parts peat, sphagnum moss, & clean potsherds. *Position*, well drained pots, pans, or narrow bed with shoots trained up wall or rafter, or logs of wood. *Pot* or plant, Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* foliage daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by cuttings of climbing stems cut into 2 or 3 in. lengths & imbedded in sphagnum moss & peat in temp. of 75° to 85° in spring.

Vanilla (*Vanilla planifolia*)—see *Vanilla*.

Vanilla Grass (*Hierochloë fragrans*)—see *Hierochloë*.

Van Thol Tulip (*Tulipa suaveolens*)—see *Tulipa*.

Van Volxem's Passion-flower (*Tacsonia Van Volxemi*)—see *Tacsonia*.

Variegated Cat's-tail Grass (*Phleum pratense variegata*)—see *Phleum*.

Variegated Chestnut (*Castanea vesca variegata*)—see *Castanea*.

Variegated Colt's-foot (*Tussilago farfara variegata*)—see *Tussilago*.

Variegated Cut-leaved Elder (*Sambucus laciniata variegata*)—see *Sambucus*.

Variegated Daphne (*Daphne odora variegata*)—see *Daphne*.

Variegated Dwarf Spindle-tree (*Euonymus japonicus radicans variegatus*)—see *Euonymus*.

Variegated Elm (*Ulmus campestris viminalis variegata*)—see *Ulmus*.

Variegated Field Maple (*Acer campestre variegatum*)—see *Acer*.

Variegated Fig-wort (*Scrophularia nodosa variegata*)—see *Scrophularia*.

Variegated Flax-lily (*Phormium tenax variegatum*)—see *Phormium*.

Variegated Horse Chestnut (*Æsculus hippocastanum variegatum*)—see *Æsculus*.

Variegated Indian Laurel (*Croton variegatus*)—see *Croton*.

Variegated Iris (*Iris variegata*)—see *Iris*.

Variegated Ivy (*Hedera Helix variegata*)—see *Hedera*.

Variegated Japanese Grass (*Eulalia japonica variegata*)—see *Eulalia*.

Variegated Laurel (*Aucuba japonica*)—see *Aucuba*.

Variegated-leaved Bugle (*Ajuga reptans variegata*)—see *Ajuga*.

Variegated-leaved Day-lily (*Heimerocallis Kwanso variegata*)—see *Heimerocallis*.

Variegated-leaved Mad-wort (*Alyssum saxatile variegatum*)—see *Alyssum*.

Variegated-leaved Periwinkle (*Vinca major elegantissima*)—see *Vinca*.

Variegated-leaved Privet (*Ligustrum vulgare variegatum*)—see *Ligustrum*.

Variiegated-leaved Wormwood (*Artemisia vulgaris variegata*)—see *Artemisia*.

Variiegated Meadow-sweet (*Spiræa ulmaria variegata*)—see *Spiræa*.

Variiegated Milk-weed (*Asclepias variegata*)—see *Asclepias*.

Variiegated Myrtle (*Myrtus communis variegata*)—see *Myrtus*.

Variiegated Nettle (*Lamium maculatum*)—see *Lamium*.

Variiegated New Zealand Flax (*Phormium tenax variegata*)—see *Phormium*.

Variiegated Panicum (*Oplismenus variegatus*)—see *Oplismenus*.

Variiegated Rock-cress (*Arabis lucida variegata*)—see *Arabis*.

Variiegated Sage (*Salvia officinalis tricolor*)—see *Salvia*.

Variiegated Tree-mallow (*Lavatera arborea variegata*)—see *Lavatera*.

Variiegated Weeping Ash (*Fraxinus excelsior aurea pendula*)—see *Fraxinus*.

Various-coloured Crocus (*Crocus versicolor*)—see *Crocus*.

Various-coloured Star-wort (*Aster versicolor*)—see *Aster*.

Various-leaved Ash (*Fraxinus heterophylla*)—see *Fraxinus*.

Various-leaved Barberry (*Berberis heterophylla*)—see *Berberis*.

Various-leaved Collins's-flower (*Collinsia heterophylla*)—see *Collinsia*.

Various-leaved Holly (*Ilex aquifolium heterophyllum*)—see *Ilex*.

Various-leaved Plum (*Prunus domestica heterophylla*)—see *Prunus*.

Various-leaved Rock-rose (*Cistus heterophyllus*)—see *Cistus*.

Various-leaved Saxifrage (*Saxifraga diversifolia*)—see *Saxifraga*.

Various-leaved Thorn (*Cratægus heterophylla*)—see *Cratægus*.

Vase-flowered Bell-flower (*Campanula turbinata*)—see *Campanula*.

Vaudois Saxifrage (*Saxifraga valdensis*)—see *Saxifraga*.

Vegetable Fire-cracker (*Brodiaea coccinea*)—see *Brodiaea*.

Vegetable Hair (*Tillandsia usneoides*)—see *Tillandsia*.

Vegetable Marrow (*Cucurbita ovifera*)—see *Cucurbita*.

Vegetable Oyster (*Tragopogon porrifolius*)—see *Tragopogon*.

Veitch's Begonia (*Begonia Veitchi*)—see *Begonia*.

Veitch's Flamingo-plant (*Anthurium Veitchi*)—see *Anthurium*.

Veitch's Virginian Creeper (*Ampelopsis tricuspidata* [*A. Veitchi*])—see *Ampelopsis*.

Veltheimia.—*Ord.* Liliacæ. Greenhouse bulbous plants. *Nat. S. Africa. Int.* 1768. *Ht.* 1 to 2 ft. *Species* cultivated, 2. *Flowers*, red, yellow; *Mar.* to *Aug.* *Compost*, two parts sandy loam, one part well decayed cow-manure, & little sand. *Position*, light sunny greenhouse or window, *Sept.* to *June*; sunny cold frame remainder of year. *Pot* bulbs of *V. viridifolia*, *Aug.* to *Nov.*; those of *V. glauca*, *Oct.* to *Mar.* *Place* bulbs with point just below surface of compost. *Press* compost firmly in pots. *Water* moderately when new growth commences; freely when in full growth; keep nearly dry when leaves die off. *Apply* stimulants occasionally when the plants are growing freely. *Temp.*, *Sept.* to *Mar.*, 40° to 50°; *Mar.* to *June*, 55° to 65°. *Propagate* by offsets removed from parent bulbs, placed in small pots & treated as advised for large bulbs; by leaves removed close to bulbs & inserted singly in pots of sandy soil in spring or sum.

Velvet Dock (*Verbascum Thapsus*)—see *Verbascum*.

Velvet-flower (*Amarantus caudatus*)—see *Amarantus*.

Velvet-leaf (*Lavatera arborea*)—see *Lavatera*.

Velvet Osier (*Salix viminalis*)—see *Salix*.

Venetian Sumach (*Rhus cotinus*)—see *Rhus*.

Venice Mallow (*Hibiscus trionum*)—see *Hibiscus*.

Venice Turpentine-tree (*Larix europæa*)—see *Larix*.

Venidium.—*Ord.* Compositæ. Half-hardy perennial. *Nat.* Cape of Good Hope. *Int.* date unknown. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, yellow; *sum.* *Soil*, ordinary. *Position*, sunny borders. *Plant*, Ap. *Propagate* by seeds sown in light soil in temp. 55° to 65°, Mar. or Ap., transplanting seedlings outdoors, May or June; cuttings inserted in pots of sandy soil under handlight or bell-glass in greenhouse in July or Aug.; afterward placing rooted cuttings singly in small pots, keeping these in greenhouse until following Ap., then planting outdoors.

Ventricose Pitcher-plant (*Nepenthes phyllamphora*)—see *Nepenthes*.

Venus's Basin (*Dipsacus sylvestris*)—see *Dipsacus*.

Venus's Fly-trap (*Dionæa muscipula*)—see *Dionæa*.

Venus's Hair (*Adiantum capillus-veneris*)—see *Adiantum*.

Venus's Looking-Glass (*Specularia speculum*)—see *Specularia*.

Venus's Navel-wort (*Omphalodes linifolia*)—see *Omphalodes*.

Vera Cruz Aloe (*Agave lurida*)—see *Agave*.

Veratrum (White Hellebore, Lungwort, Black Hellebore, False Hellebore).—*Ord.* Liliacæ, Hardy herbaceous perennials. *Nat.* Europe, Siberia, N. America. *Int.* 1548. *Ht.* 3 to 4 ft. *Species* cultivated, 3; varieties several. *Flowers*, whitish, greenish, purple; *sum.* *Leaves*, large, much ribbed, green. *Roots*, creeping; highly poisonous. *Soil*, light ordinary or peaty. *Position*, partially shady moist borders. *Plant*, Oct. to Ap. *Propagate* by seeds sown in moist peaty soil outdoors, Mar. or Ap.; division of roots, Oct. or Ap.

Verbascum (Mullein, Aaron's Rod, Beggar's Blanket, Lady's Fox-glove, Shepherd's Club).—*Ord.* Scrophulariacæ. Hardy biennial & perennial herbs. *Nat.* Europe (Britain), Levant, Caucasus. *Ht.* 2 to 6 ft. *Species* cultivated, 3 perennials; about 11 biennials. *Flowers*, yellow, purplish, violet, red; *sum.* **CULTURE OF BIENNIAL SPECIES** (*V. Chirizii*, *V. Thapsus*, etc.): *Soil*, ordinary. *Position*, sunny borders. Sow seeds in light rich soil in sunny position outdoors in Ap., transplanting seedlings when 3 or 4 leaves form, 6 in. apart in sunny position until following Ap.; then plant where required to flower. **CULTURE OF PERENNIAL SPECIES** (*V. phanicium*, *V. nigrum*, etc.): *Soil*, deep light rich ordinary. *Position*, sunny borders. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by seeds as advised for biennial species; by division of roots in Mar. or Ap.

Verbena (Vervain, Holly Herb, Juno's Tears, Pigeon's Grass, Simpler's Joy).—*Ord.* Verbenacæ. Hardy annuals & biennials, & greenhouse shrubby & hardy herbaceous perennials. *Nat.* Europe (Britain), N. America, Brazil, Mexico, Peru, & Chili. *Int.* (foreign species), 1774. *Ht.* 6 in. to 4 ft. *Species* cultivated, 4 annuals; 5 biennials; 9 hardy herbaceous; 14 greenhouse; varieties numerous. *Flowers*, various; *sum.* *Present race* of verbenas originally derived from the intercrossing of *V. melindres*, *V. Tweediana*, *V. tauricoides*, & *V. incisa*—shrubby species natives of Brazil. **CULTURE OF GREENHOUSE SPECIES AND VARIETIES**: *Compost*, two parts good turfy loam, & one part of equal proportions of decayed manure, leaf-mould, & sharp silver sand. *Position*, pots in light greenhouse; or cold frames in *sum.* *Pot*, Feb. to May. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* stimulants two or three times weekly to plants in flower. *Nip* off points of shoots during spring to induce bushy growth. *Discontinue* nipping off points of shoots six weeks before plants are required to flower. *Young plants* struck from cuttings or raised from seed best adapted for pot culture. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to June, 55° to 65°. *Shade* from sun. **OUTDOOR CULTURE**: *Soil*, good ordinary liberally enriched with decayed manure. *Position*, sunny beds or borders. *Plant* 12 in. apart each way in June. *Water* freely in dry

weather. *Peg shoots* to surface of bed as they grow, & when they meet each other nip off their points. **CULTURE OF ANNUAL AND BIENNIAL SPECIES:** *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in light soil in temp. 55° in Feb., harden off seedlings in cold frame in Ap., & plant out 12 in. apart in May; or where required to grow in Ap. **CULTURE OF HARDY SPECIES:** *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Lift*, divide, & replant triennially. **CULTURE OF V. VENOSA:** Half-hardy herbaceous perennial. *Ht.* 2 ft. *Flowers*, lilac; sum. *Soil*, ordinary rich. *Position*, sunny beds or borders. *Plant*, May. *Lift* roots in Oct., store in ordinary soil in boxes in frost-proof place until Mar., then place in temp. 55°, & when new shoots form remove these with portion of old roots, place in small pots, harden off & plant out 12 in. apart in May; or plant old roots, dividing them, if necessary, direct into beds in Ap. *Peg shoots* down as they grow. May be grown outdoors altogether in well drained soils in sheltered districts. *Propagate* common or garden verbenas by seeds sown $\frac{1}{8}$ in. deep in pots, pans, or boxes filled with a compost of equal parts loam & leaf-mould & little sand, placed in a temp. 65° to 75° in Jan., Feb. or Mar., transplanting seedlings when third leaf forms in boxes or pans, placing these on shelf near glass in temp. 55°, transferring when fairly strong singly to 2½-in. pots, & later on to a larger size; by cuttings inserted in a bed of sandy soil in cold frame in Aug., lifting cuttings when rooted & planting 2 in. apart in boxes or pans & storing on shelf in greenhouse until Mar., then potting off singly in small pots; or young shoots taken off in Feb. or Mar. & inserted in damp sand under bell-glass in temp. 65°; hardy species, including *V. venosa*, by division of the roots in spring, or cuttings of shoots inserted in cold frame in Aug.

Verbena Oil-plant (*Aloysia citriodora*)—see *Aloysia*.

Vermilion-flowered Rhododendron (*Rhododendron cinnabarinum*)—see *Rhododendron*.

Vernal Gentian (*Gentiana verna*)—see *Gentiana*.

Vernal Iris (*Iris verna*)—see *Iris*.

Veronica (Speedwell, Cancer Wort).—*Ord.* Scrophulariaceæ. Half-hardy & hardy evergreen flowering shrubs & hardy herbaceous perennials. *Nat.* Europe (Britain), New Zealand, Levant, Caucasus, N. America. *Ht.* 3 in. to 3 ft. *Species* cultivated, 29 shrubby; 13 hardy herbaceous perennials. *Flowers*, white, blue, pink, purple, lilac; sum. & autn. **CULTURE OF SHRUBBY SPECIES OUTDOORS:** *Soil*, ordinary or loam & peat. *Position*, sunny rockeries, borders, or beds near the sea coast, or in inland sheltered districts south of the Trent. *Plant*, Sept. or Ap. *Protect* in very severe weather. *Prune* straggly plants into shape in Ap. **POT CULTURE:** *Compost*, two parts loam, one part peat, & little sand. *Position*, sunny greenhouse, windows, corridors, porches, or balconies. *Pot*, Sept. or Mar. *Water* freely, Ap. to Oct.; moderately other times. *Apply* stimulants occasionally to healthy plants during sum. *Plants* put out in rich soil in sunny position in May, kept well watered, lifted, & placed in pots in Sept., will usually flower freely in the greenhouse during autn. **CULTURE OF HARDY PERENNIAL SPECIES:** *Soil*, ordinary rich. *Position*, sunny borders or rockeries. *Plant*, Sept. to Nov., Feb. to May. *Lift*, divide, & replant triennially. *Water* freely in dry weather. *Mulch* annually in Ap. with decayed manure. *Propagate* shrubby species by cuttings inserted in sandy soil under bell-glass in spring; under handlight or in cold frame in sum.; perennials by division of roots in autn. or spring; seeds sown in light soil in shade outdoors in Ap.

Verschaffeltia.—*Ord.* Palmaceæ. Stove palm. *Orn.* foliage. *Nat.* Seychelles. *Int.* 1864. *Ht.* 12 to 80 ft. *Species* cultivated, 1. *Leaves*, roundish, divided at tips; bright green. *Compost*, two parts fibrous peat, one part equal proportions charcoal, turfy loam, & sand. *Position*, moist shady part of stove. *Pot*, Feb. or Mar. *Syringe* freely twice daily, Feb. to Oct.; once daily afterwards. *Water* freely at all times. *Shade* & moist atmosphere essential. *Temp.*,

Mar. to Oct., 70° to 85°; Oct. to Mar., 65° to 75°. *Propagate* by seeds sown 1 in. deep in peat & loam in small pots in temp. 75° to 85°, spring.

Vervain Mallow (*Malva alcea*)—see *Malva*.

Very Prickly Box Thorn (*Lycium horridum*)—see *Lycium*.

Very Smooth Phlox (*Phlox glaberrima*)—see *Phlox*.

Viburnum (Guelder Rose, Laurestinus, Wayfaring Tree, Cotton Tree, Water Elder, Snowball Tree).—*Ord.* Caprifoliaceæ. Hardy deciduous evergreen flowering shrubs. *Nat.* Europe (Britain), Japan, Caucasus, Himalayas, China, N. America. *Ht.* 2 to 10 ft. *Species* cultivated, 7 evergreen; about 25 deciduous; varieties several. *Flowers*, white; those of Laurestinus, Dec. to Mar.; others, sum. *Soil*, good ordinary. *Position*, open sunny shrubberies. *Plant*, Oct. to Mar. *Prune* moderately after flowering. *CULTURE OF LAURESTINUS* (*V. tinus*): *Soil*, deep sandy loam. *Position*, warm sheltered shrubberies, etc. *Plant* Sept., Oct. or Ap. *Prune*, Ap. *This species* also suitable for pot culture for flowering in cold greenhouses in winter. *Pot*, spring. *Position*, outdoors in semi-shady position, May till Oct.; in cold greenhouse, Oct. to May. *Water* freely while outdoors; moderately in winter. *Propagate* by cuttings of half-ripened shoots inserted in sandy loam under bell-glass in cold shady frame or handlight outdoors in Sept. or Oct.; or by layering shoots in Sept. or Oct.

Vicia (Vetch, Tare).—*Ord.* Leguminosæ. Hardy annual & perennial herbs. *Nat.* Europe (Britain), Algiers, Siberia, Taurea. *Int.* (foreign species) 1758. *Ht.* 1 to 2 ft. *Species* cultivated, 4 perennials; 4 annuals. *Flowers*, pink, purple, blue; May to July. *CULTURE OF ANNUAL SPECIES* (*V. onobrychioides*, *V. polysperma*, etc.): *Soil*, ordinary. *Position*, sunny borders with shoots trained up tree branches, walls, or trellises. *Sow* seeds $\frac{1}{2}$ in. deep in groups of 8 or 12 in Ap. *Water* freely in dry weather. *CULTURE OF PERENNIAL SPECIES*: *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. to Mar. *Mulch* annually with decayed manure. *Lift*, divide, & replant every 4 or 5 years. *Cut* down flower stems, Oct. or Nov. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in ordinary soil in sunny position outdoors, Mar. or Ap.; division of roots, Oct. or Mar.

Victoria (Royal Water Lily, Queen Victoria's Water Lily, Water Maize).—*Ord.* Nymphacæ. Stove aquatic plant. *Orn.* foliage. *Nat.* Tropical America. *Int.* 1838. *Species* cultivated, 1. *Flowers*, white, rose, purple; sum. *Leaves*, roundish, flat, with turned-up edges; bronzy green: 4 to 6 ft. diameter; floating. *Compost*, two parts good rich turfy loam, one part decayed cow-manure. *Position*, large tank 6 ft. deep & 20 to 25 ft. wide filled with running water. *Plant*, May. *Temp. of water*, 80° to 85°. *Temp. of atmosphere*, 75° to 85°, Mar. to Sept.; Sept. to Mar., 65° to 75°. *No shade* required. *Propagate* by seeds sown in pot of sandy loam submerged in water heated to temp. of 85°, & placed near glass in light position, Jan. When seedlings appear above surface, transplant singly in small pots & place in water again until May, then plant out as above advised. *The Victoria Regia* is strictly a perennial, but thrives best treated as an annual in this country.

Victorian Laurel (*Pittosporum undulatum*)—see *Pittosporum*.

Victorian Raspberry (*Rubus roseifolius*)—see *Rubus*.

Victoria Water-Lily (*Victoria regia*)—see *Victoria*.

Victor's Laurel (*Laurus nobilis*)—see *Laurus*.

Villarsia.—*Ord.* Gentianacæ. Greenhouse aquatic herbs. *Nat.* Australia, Cape of Good Hope. *Int.* 1786. *Ht.* 6 in. to 3 ft. *Species* cultivated, 4. *Flowers*, yellow; July & Aug. *Compost*, two parts boggy peat, one part silver sand. *Position*, well drained pots submerged to rim in tubs of water in light part of greenhouse. *Plant*, Mar. or Ap. *No shade* required. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar., 40° to 50°.

Vinca (Periwinkle, Band Plant, Cut Finger, Madagascar Periwinkle).—*Ord.* Apocynacæ. Hardy herbaceous perennials & stove evergreen shrub.

Nat. Europe (Britain), E. Indies. *Int.* (foreign species) 1758. *Ht.* 1 to 3 ft. *Species* cultivated, 1 stove shrub; 4 perennials. *Flowers*, blue, white, rose; *Mar.* to Oct. **CULTURE OF STOVE SPECIES** (*V. rosea*): *Compost*, two parts fibrous loam, one part decayed manure, & little silver sand. *Position*, well drained pots in stove, Sept. to June; sunny cold frame or greenhouse remainder of year. *Pot*, Feb. or Mar. *Prune* shoots of old plants to within 1 or 2 in. of their base in Jan. or Feb. *Water* freely, Ap. to Oct.; moderately afterwards. *Apply* weak stimulants occasionally during sum. & autn. *Nip* off points of shoots in young or old plants once or twice during July & Aug. to insure bushy habit. *Temp.*, Mar. to June, 65° to 75°; Sept. to Mar., 55° to 65°. **CULTURE OF HARDY SPECIES** (*V. major*, *V. minor*, etc.): *Soil*, ordinary. *Position*, shady borders, rockeries, or shrubberies under trees. *Plant*, Oct. to Ap. *Lift*, divide, & replant only when absolutely necessary. **POT CULTURE**: *Compost*, two parts sandy loam, one part leaf-mould, & little sand. *Pot*, Oct. to Mar. *Position*, pots suspended in wire baskets in cold or cool greenhouses, balconies, or windows. *Water* freely, Ap. to Sept; moderately afterwards. *Repot* annually. *Sorts* adapted for pot culture: *V. major elegantissima*, leaves green margined or blotched with creamy white; *V. minor alba*, white flowered; *V. m. argentea variegata*, green & white foliage; *V. m. aurea variegata*, green & yellow foliage; *V. m. carulea fl. pl.*, double-blue flowered. *Propagate* *V. rosea* by cuttings of young shoots removed when 2 or 3 in. long in spring, & inserted in sandy soil under bell-glass in temp. 65° to 75°. Hardy species by division in Mar. or Ap.

Vine (*Vitis vinifera*)—see *Vitis*.

Vine-bower Clematis (*Clematis viticella*)—see *Clematis*.

Vinegar-tree (*Rhus typhina* & *R. glabra*)—see *Rhus*.

Vine Maple (*Acer circinatum*)—see *Acer*.

Viola (*Viola*, Violet, Tufted Pansy, Pansy, Heartsease).—*Ord.* Violaceæ. Hardy perennial herbs. *Nat.* (pansy & violet) Europe—Britain; other species, N. America, Siberia, Pyrenees, & Dahuria. *Ht.* 6 in. *Species* cultivated, about 7; varieties numerous. *Flowers*, various; spring & sum. **CLASSIFICATION**: *Pansies in General*.—Any free-growing or free-flowering strain, self-coloured, or variegated. *Show Pansy*.—Blossoms circular, flat, & smooth, without wavy or crinkly edges; petals thick, velvety & lying closely over each other; principal or ground colour of three lower petals pure white or yellow; dark circular blotch in centre of blossoms, orange eye; dark narrow belt to three lower petals; same colour as upper petals; diameter 1½ in. *Fancy Pansy*.—Blossoms circular, flat, & smooth with wavy or crinkled edges; petals thick & velvety, lying closely over each other; solid, bright orange eye; large blotches of colour, with narrow belt or margin of another colour on three lower petals; top petals same colour as blotches or margins; colour, sometimes suffused; size 1½ to 2 in. in diameter. *Tufted Pansy*.—A name applied to a class of pansies, commonly called “violas,” hybrids of the ordinary pansy and the Horned Violet (*V. cornuta*). Blossoms smaller than those of ordinary pansies. Colours varied, chaste, and delicate. *Habit* dwarf, not spreading as in the pansy. *Trimaudeau Pansy*.—A strain of French origin, noteworthy for coarseness of blossoms & gaudiness of colour. **CULTURE OF SHOW, FANCY, AND TUFTED PANSIES**: *Soil* (a) deep, rich, moist loam, enriched with well decayed cow-manure; (b) two parts loam, one part of equal proportions of leaf-mould & sand; (c) ordinary light mould, enriched with cow-manure; (d) clayey or heavy soils, with decayed horse or cow-manure. *Soil* best manured & dug previous autn. *Position*, open, light, sheltered, away from roots & branches of trees, & shaded from mid-day sun. *Plant* pansies in Sept., Oct. or Ap., 12 in. apart each way; tufted pansies, Mar. or Ap., 10 in. apart each way. *Mulch* with cow-manure & leaf-mould in May or June. *Stir* the surface frequently. *Water* copiously in dry weather, applying it in the evening. *Remove* all flower buds until plants are established. *If* exhibition blossoms are

desired, allow only one bloom to grow on each shoot. *Manures*: (1) 1 oz. guano to a gall. of water; (2) $\frac{1}{2}$ oz. sulphate of ammonia, $\frac{1}{2}$ oz. superphosphate of lime, $\frac{1}{2}$ oz. sulphate of iron to 2 gall. of water (Griffiths); (3) liquid soot, prepared by enclosing a peck of soot & a heavy stone in a canvass bag, and immersing this with a few crystals of sulphate of iron in 30 gall. of water, used undiluted; (4) liquid cow or sheep dung, prepared by placing a peck of dung in 30 gall. of water, keeping mixture stirred at intervals for a week, then applying liquid in a clear state undiluted. All the foregoing may be applied every ten days or so during growing & flowering season. *CULTURE OF VIOLET (V. odorata)*: Soil, ordinary, previously well enriched with well decayed manure. Clay soils require plenty of grit, decayed vegetable refuse & manure incorporated with them. Light & gravelly soils need a liberal amount of cow-manure & loam or clay mixed with them. *Position*, border or bed on north or north-east side of hedge, or under the shade of fruit trees. Full exposure to hot sun undesirable. *Plant* "crowns" 9 in. apart in rows 12 in. asunder, Ap. "*Crowns*" are portions separated from parent plant, each being furnished with roots. *Water* when first planted & shade from sun. *Apply* manures recommended for pansies at intervals of three weeks during sum. *Remove* runners, i.e., shoots that issue from the "crowns," as they form during sum., & keep plants free from weeds. *Lift* plants for winter blooming in Sept., & replant, 6 to 8 in. apart, in equal parts good soil & leaf-mould in a cold sunny frame. *Water* thoroughly when first planted & give no more all winter. *Ventilate* freely in fine weather. *Protect* from frost. In case of deep frames decayed manure may be used to fill up space to within 12 in. of light, putting 6 in. of above soil on this. *Replant* annually. *POT CULTURE*: *Compost*, two parts loam, one part leaf-mould, & one part sand. *Pot*, Ap., placing six "crowns" in a 6-in. pot. *Place* in a shady frame, & water moderately. *Plunge* pots to their rims outdoors in shade in May, & let them remain till Sept., when remove to greenhouse. *Water* freely outdoors; moderately in winter. *Winter temp.*, 40° to 50°. *CULTURE OF OTHER SPECIES (V. biflora, V. calcarata, V. cornuta, V. cucullata, & V. lutea)*: Soil, ordinary, rich. *Position*, moist, partially shaded rockeries, beds, or borders. *Plant*, Mar. or Ap., 3 to 6 in. apart. *Propagate* by seeds sown in light sandy soil in boxes or pans in cold shady frame in July or Aug., transplanting seedlings into flowering positions in Sept. or Oct.; by cuttings inserted in cold shady frames in Aug. or Sept.; divisions in Sept. or Oct.

Violet (*Viola odorata*)—see *Viola*.

Violet-flowered Barren-wort (*Epimedium violaceum*)—see *Epimedium*.

Violet-flowered Cress (*Ionopsidium acaule*)—see *Ionopsidium*.

Violet-flowered Rocket (*Hesperis violacea*)—see *Hesperis*.

Violet-flowered Whitlow-grass (*Draba violacea*)—see *Draba*.

Violet-fruited Egg-plant (*Solanum melongena fructu-violaceo*)—see *Solanum*.

Violet Oil-plant (*Viola odorata*)—see *Viola*.

Violet-scented Orchid (*Odontoglossum Warneri*)—see *Odontoglossum*.

Violet Wood-sorrel (*Oxalis violacea*)—see *Oxalis*.

Viper Gourd (*Trichosanthes colubrina*)—see *Trichosanthes*.

Viper's Bugloss (*Echium vulgare*)—see *Echium*.

Viper's Grass (*Echium vulgare* & *Scorzonera hispanica*)—see *Echium* & *Scorzonera*.

Virginian Bower Spinach (*Tetragonia implexicoma*)—see *Tetragonia*.

Virginian Clematis (*Olematis virginiana*)—see *Clematis*.

Virginian Cowslip (*Mertensia virginica*)—see *Mertensia*.

Virginian Creeper (*Ampelopsis hederacea*)—see *Ampelopsis*.

Virginian Date-Plum (*Diospyros virginiana*)—see *Diospyros*.

Virginian Juniper (*Juniperus virginiana*)—see *Juniperus*.

Virginian Poke (*Phytolacca decandra*)—see *Phytolacca*.

Virginian Rattle-snake Fern (*Botrychium virginicum*)—see *Botrychium*.

Virginian Red Cedar (*Juniperus virginiana*)—see *Juniperus*.

Virginian Silk (*Periploca græca*)—see *Periploca*.

Virginian Snake-root (*Aristolochia serpentaria*)—see *Aristolochia*.

Virginian Spider-wort (*Tradescantia virginica*)—see *Tradescantia*.

Virginian Stock (*Malcomia maritima*)—see *Malcomia*.

Virginian Sumach (*Rhus typhina*)—see *Rhus*.

Virginian Tobacco-plant (*Nicotiana tabacum*)—see *Nicotiana*.

Virginian Trumpet-flower (*Tecoma radicans*)—see *Tecoma*.

Virginian Yellow-flowered Flax (*Linum virginianum*)—see *Linum*.

Virgin Mary's Honeysuckle (*Pulmonaria officinalis*)—see *Pulmonaria*.

Virgin's Bower (*Clematis vitalba*)—see *Clematis*.

Viscaria.—*Ord.* Caryophyllaceæ. Hardy perennial. *Nat.* Algiers. *Int.* 1843. *Ht.* 12 to 18 in. *Species* cultivated, 1; varieties several. *Flowers*, pinkish purple, crimson, scarlet, white; *sum.* *Soil*, ordinary. *Position*, open dryish beds, borders, or banks. *Plant*, Oct. to Dec. & Feb. to May. *Top-dress* with well decayed manure in Mar. or Ap. *Apply* weak liquid manure occasionally when in flower. *Lift* & replant every other year. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in sunny position outdoors in Mar. or Ap., transplanting seedlings into flowering position, Aug. to Nov.; division of plants, Sept. to Dec. & Feb. to Ap.

Viscid Flax (*Linum viscosum*)—see *Linum*.

Viscum (Mistletoe).—*Ord.* Loranthaceæ. Hardy evergreen parasitical plant. *Nat.* Europe (Britain). *Ht.* 1 to 4 ft. *Species* cultivated, 1. *Flowers*, green; *Mar.* *Fruit*, white, roundish, viscid; *winter.* *Soil*, ordinary. *Position*, open dryish beds, borders, or banks. *Plant*, Oct. to Dec. & Feb. to May. *Top-dress* with well decayed manure in Mar. or Ap. *Apply* weak liquid manure occasionally when in flower. *Lift* & replant every other year. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in light soil in sunny position outdoors in Mar. or Ap., transplanting seedlings into flowering position, Aug. to Nov.; division of plants, Sept. to Dec. & Feb. to Ap.

Vitex (Chaste Tree, Hemp Tree, Monk's Pepper Tree, Tree of Chastity).—*Ord.* Verbenaceæ. Stove & hardy evergreen flowering shrubs. *Nat.* Sicily, Ceylon, Trinidad, China, W. India, Polynesia. *Int.* 1570. *Ht.* 4 to 30 ft. *Species* cultivated, 1 hardy deciduous; about 18 stove evergreen shrubs. *Flowers*, purple, red, blue, white; *May* to *Oct.* *CULTURE OF STOVE SPECIES*: *Compost*, equal parts loam, peat, & little sand. *Position*, well drained pots in light part of stove. *Pot.*, Feb. or Mar. *Water* freely, *Mar.* to *Oct.*; moderately afterwards. *Syringe* daily, *sum.* *Temp.*, *Mar.* to *Oct.*, 65° to 75°; *Oct.* to *Mar.*, 55° to 65°. *CULTURE OF HARDY SPECIES* (*V. agnus castus*): *Soil*, ordinary. *Position*, sheltered warm border or against S. wall. *Plant*, *Oct.* to *Feb.* *Prune* into shape, moderately after flowering. *Propagate* stove species by cuttings of shoots inserted in pure sand under bell-glass in *temp.*, 75° to 85°, *spring* or *sum.* Hardy species by cuttings of shoots inserted in ordinary light sandy soil under bell-glass in cool greenhouse or cold frame, *Sept.* or *Oct.*

Vitis (Grape-vine).—*Ord.* Ampelideæ. Hardy deciduous climbing shrub. *Nat.* South of the Caspian Sea. *Int.* exact date not known; supposed by some to be A.D. 10; by others A.D. 280. *Ht.* 10 to 30 ft. *Species* cultivated, 1 (*V. vinifera*); varieties about 150. *Flowers*, green. *Berries*, round or oval; white, yellow, or purple. *INDOOR CULTURE*: *Compost*, five parts of top spit turfy loam from an old pasture chopped into small pieces, one part old lime rubbish, one part equal proportions of charcoal & wood

ashes, & one part half-inch bones. *Position*, sunny, fairly dry subsoil. *Borders*: Inside for early forcing; outside for late or ordinary culture. Width, 10 to 16 ft.—that is equaling width of house. Depth, 3 ft. On cold clayey soils, surface of border best raised 18 in. above ordinary ground level, & bottom covered with layer of concrete. Place brick rubbish & old mortar 2 ft. deep at back, sloping to 18 in. in front, in bottom of border. On this put a layer of turves, grass side downwards, then fill the remaining space with above compost. A drain along bottom of front of border is advisable. *Plant*, end of Jan. or beginning of Feb.; or in the case of young plants raised from eyes in spring, June, or July. *Distance for planting*: 5 ft. apart. *Pruning*—*First year*: Shorten the stem of vine planted in Jan. or Feb. to within 3 in. of ground if inside; to within 2 in. of where it enters house if outside, directly after planting. Allow one strong shoot only to grow & form future stem; rub all others off when they first form. Prune this following Dec. half way back if strong; two thirds if weak. *Second year*: Allow side shoots to form & one young shoot to grow up roof 18 in. apart; rub off remainder in a young state. Nip off points of side shoots at first joint beyond bunch if any, otherwise at third or fourth joints. Prune side shoots following Dec. close to last bud or eye near main stem to form spurs, & third portion of main stem same as advised for second portion. *Third year*: Allow side shoots to form at spurs, also on third portion of main stem. If more than one shoot forms at a spur, select strongest & rub off (disbud) remainder. Nip off points of shoots as before advised. Following Dec., shorten shoots issuing from spurs, also from third portion of main stem to last eye or bud; also fourth portion of main stem to length of rafters. *Fourth and subsequent years*: Future pruning to consist of rubbing off (disbudding) all side shoots except one at each spur, nipping off (stopping) points at first joint beyond bunch or fourth from base, cutting back, Dec. or Jan., side shoots to last bud or eye from their base. *Time for starting Vines*: Nov. to ripen fruit in Ap.; Dec. for May; Jan. for June; Mar. for July. Vines started in Mar. without artificial heat will ripen in Aug. or Sept. *Temp. by night*: 35° to 40° until buds break; 45° to 50° from then until flowers expand; 50° to 55° during flowering period; 60° to 70° from then until berries are ripe. *Temp. by day*: 60° on cold & 70° to 75° on sunny days until buds break; 65° on cold & 75° to 80° on sunny days from then until vines flower; 75° on cold & 85° to 90° on sunny days onwards till grapes are ripe. *Watering Inside Borders*: Apply water heated to temp. 60° at the rate of 4 to 5 gall. per square foot when vines are started; again when shoots are 6 in. long; also just before flowers expand; lastly, when berries begin to swell for second time. *Watering Outside Borders*: Apply water similar temp. & quantity just before flowering & when berries begin to swell second time. *Syringe* morning & afternoon daily until vines flower, then cease. *Moisten* floors, staging, walls, & borders several times daily from start until berries colour, then discontinue. *Ventilation*: Open the ventilators tentatively on fine days when the sun rises, & close again early in afternoon or when sun disappears. Ventilate freely night & day during ripening period. *Liquid manures*: (1) 1 oz. guano to a gall. of water; (2) 1 oz. Clay's fertilizer to a gall. of water; (3) drainings from stable or manure heap, diluted with one third water. Apply when berries first form, & again when they commence to colour. *Solid manures*: (1) Beeson's manure, 1 lb. per sq. yard; (2) native guano, $\frac{1}{2}$ lb. per sq. yard; (3) Thomson's vine manure, $\frac{1}{2}$ lb. per sq. yard. Apply when vines first commence growth, again when berries form, & lastly, when they commence to colour. Lightly fork into surface & wash in with water. *Special manures for various soils*—(a) *Sandy soils not containing much humus*: 2 lbs. of guano, 3 lbs. kainit, mixed together, & latter crushed fine; apply at the rate of 2 oz. to a square yard once a week from time berries form until they change colour. (b) *Sandy soils containing much humus*: 1 lb. nitrate of soda, 2 lbs. superphosphate, 3 lbs. kainit, applied at the rate of 1½ oz. per square yard as advised for (a). (c) *Calcareous soils*: 1 lb. dried blood, 2 lbs. superphosphate,

1 lb. sulphate of potash, applied at the rate of 1 oz. to a square yard as recommended for (a). (d) *Peaty soils*: 1 lb. nitrate of soda, 3 lbs. basic slag, 2 lbs. sulphate of potash; apply 1 oz. to a square yard once a fortnight. Potash and soda to be crushed fine; mixture to be well washed in by a copious watering (Dyke). *Top dressing*: Apply 2 in. of horse or cow-manure to surface of border when vines commence to grow. Also compost of two parts loam, one part of equal proportions of wood ashes & bone shavings or ground bones applied in autn., first removing loose inert soil from surface. *Cropping*: Average weight of fruit per foot run of rod, 1 lb. Average weight of a fair-sized bunch, $\frac{3}{4}$ lbs. Average number of bunches borne by a rod 12 ft. long, about 12. Allow one bunch only to each spur, for heavy crop; one to every alternate spur for moderate crop. Thin berries when size of radish seeds. Avoid touching berries with hand or head. *Temp. for Grapes when Ripe*: 40° to 45°. *POT CULTURE*: Two-year old plants established in 10 or 12 in. pots best adapted for fruiting in pots. No repotting required. Place in temp., 60°, Nov. to Feb. Give little water till buds break, then apply freely. Increase temp. to 65° after buds break, & to 75° when in flower; lower to 68° afterwards until stoning is completed, when again raise to 70°. Allow above temp. to be increased 5° to 10° by sun-heat. Syringe daily until vines flower. Thin berries when size of radish seeds. Apply one of above liquid stimulants three times weekly after berries form & until they are ripe. Top-dress with Standen's manure at the rate of a tablespoonful to each pot; or with two parts loam & one part Thomson's vine manure when berries form. Allow each vine to carry 6 to 8 bunches—8 to 10 lbs. altogether. *OUTDOOR CULTURE*: *Soil*, two parts sandy loam, one part of equal proportions of wood ashes, old mortar, half-inch bones, & rotten manure. *Position*, against a south sunny wall. *Plant*, 2 ft. apart, Nov. or Mar. *Prune*, Jan. or Feb., precisely as advised for indoor culture. *Disbud* also in a similar manner. *Manures* advised for indoor vines equally applicable for outdoor ones. *CULTURE OF HARDY ORNAMENTAL-LEAVED SPECIES* (*V. Labrusca*, *V. vulpina*, etc.). *Nat.* N. America, China, Himalayas. *Ht.* 10 to 20 ft. *Species* cultivated, about 6. *Soil*, ordinary, rich. *Position*, sunny walls or arbours. *Plant*, Nov. or Feb. *Prune*, Feb., shortening previous year's shoots not required to form stems to last bud near their base. *Propagate* by seeds sown in light mould in temp. 55° to 65° in spring; by "eyes" inserted in light sandy soil in temp. 65° to 75° in Jan., Feb., or Mar.; by cuttings of shoots 6 in. long & having a slice of older branch attached at base, inserted in shady position outdoors in Oct. or Nov.; layering shoots in sum. or autn.; inarching in spring; grafting when the vines are in flower.

Vriesia.—*Ord.* Bromeliaceæ. Stove epiphytal flowering & orn. foliage plant. *Nat.* Andes of Ecuador & Peru, Brazil, Guiana, Mexico. *Int.* 1866. *Ht.* 6 to 12 in. *Species* cultivated, about 10. *Flowers*, yellow, green, white; winter. *Bracts*, rose, green, scarlet. *Compost*, equal parts fibrous loam, rough peat, silver sand, & leaf-mould. *Pot.* Feb. or Mar. *Water* copiously, Mar. to Oct.; moderately afterwards. *Shade* from sun. *Syringe* daily, Ap. to Sept. *Moist atmosphere* essential in sum. *Temp.*, Sept. to Mar., 60° to 70°; Mar. to Sept., 70° to 80°. *Propagate* by offsets inserted in small pots of sandy peat in temp. 75° to 85° in spring.

Wachendorfia.—*Ord.* Hamoradaceæ. Half-hardy bulbous-rooted plants. *Nat.* S. Africa. *Int.* 1687. *Ht.* 12 to 18 in. *Species* cultivated, 4. *Flowers*, crimson & yellow; spring. *OUTDOOR CULTURE*: *Soil*, light, rich sandy. *Position*, sunny well drained border. *Plant*, Sept. to Jan., placing bulbs 4 in. deep & 2 in. apart. *Lift* & replant bulbs annually. *Mulch* surface of bed in Mar. with cow-manure. *POT CULTURE*: *Compost*, two parts sandy loam, one part leaf-mould or decayed cow-manure. *Pot.* $4\frac{1}{2}$ in. in diameter, well drained. *Place* five bulbs, 3 in. deep, in each pot in Nov., & cover with cocoanut-fibre refuse in cold frame or under cool greenhouse stage

until growth begins. *Water* moderately from time bulbs begin to grow until flowers fade, then gradually cease, keeping bulbs dry till Jan. *Temp.*, Sept. to Mar., 40° to 50°; other times, 50° to 65°. *Propagate* by offsets treated as advised for bulbs.

Wading Pondweed (*Stratiotes aloides*)—see *Stratiotes*.

Wafer Ash (*Ptelea trifoliata*)—see *Ptelea*.

Wahlenbergia (Australian Bell-flower).—*Ord.* Campanulacææ. Greenhouse & hardy annual & perennial herbs. *Nat.* Europe (Britain), Cape of Good Hope, New Zealand, Juan Fernandez. *Int.* 1794. *Ht.* 1 to 18 in. *Species* cultivated, 2 greenhouse annuals; 2 greenhouse perennials; 1 hardy annual; 2 hardy perennials. *Flowers*, blue, white, violet; Ap. to Aug. *CULTURE OF GREENHOUSE ANNUALS* (*W. gracilis*, etc.): *Compost*, equal parts peat & loam with little sand. *Position*, well drained pots in sunny part of greenhouse. *Sow* seeds in well drained pans in Mar. or Ap. in temp. of 55° to 60°; cover lightly with fine compost & shade from sun. *Transplant* seedlings when three leaves form, 1 in. apart, in pans, boxes, or well drained pots; when 3 in. transfer singly to small pots & grow on in greenhouse close to glass. *Water* moderately. *Temp.*, 55° to 65°. *CULTURE OF HARDY ANNUALS*: *Soil*, ordinary light rich. *Position*, sunny borders. *Sow* seeds thinly in patches or lines, lightly covering with fine mould, in Ap. *Thin* seedlings to 2 or 3 in. apart when 1 in. high to ensure nice bushy plants. *CULTURE OF GREENHOUSE PERENNIALS* (*W. saxicola*, etc.): *Compost*, same as for greenhouse annuals. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely, Ap. to Oct.; moderately afterwards. *Temp.*, Mar. to Oct., 55° to 65°; Oct. to Mar., 45° to 50°. *CULTURE OF HARDY SPECIES*: (*W. tenuifolia*, etc.): *Soil*, ordinary. *Position*, sunny rockeries. *Plant*, Oct. to Ap. *Propagate* by seeds as advised for annual species; cuttings in sum.; division in spring.

Wainscot Oak (*Quercus cerris*)—see *Quercus*.

Waitzia.—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Australia. *Int.* 1835. *Ht.* 1 to 2 ft. *Species* cultivated, 5. *Flowers*, yellow, brown, pink, white; sum. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep in light sandy soil in temp. 55° to 65° in Mar. or Ap., harden off in May, & plant out in June. *Gather* blooms when fully grown, & dry thoroughly in sum. for winter decoration. *Pot CULTURE*: *Compost*, equal parts sandy peat, leaf-mould, loam, & decayed cow-manure. *Sow* seeds thinly in shallow pan or box in temp. 55° to 65° in Sept. for spring flowering, & in Mar. for sum. blooming. *Transplant* when three leaves have formed 1 in. apart in a 5-in. pot. *Grow* on shelf near glass. *Water* moderately at first; freely later on. *Apply* weak stimulants once a week when seedlings are 6 in. high. *Support* with neat stakes when 3 to 6 in. high. *No* shade required. *Winter temp.*, 45° to 55°.

Waldsteinia (Barren Strawberry).—*Ord.* Rosacææ. Hardy perennial herbs. *Nat.* N. America, E. Europe. *Int.* 1800. *Ht.* 4 to 6 in. *Species* cultivated, 3. *Flowers*, yellow; Ap. to June. *Soil*, ordinary rich. *Position* on sunny rockeries. *Plant*, Oct. to Ap. *Cut* away flower stems in Sept. *Propagate* by seeds sown $\frac{1}{4}$ in. deep in shallow boxes or well drained pots of light soil in cold frame, Ap. or July, or in sunny positions (similar depth & soil) outdoors, Ap. or Aug.; division of plants, Oct. to Ap.

Walking-leaf Fern (*Camptosorus rhizophyllus*)—see *Camptosorus*.

Wallace's Saxifrage (*Saxifraga Wallacei*)—see *Saxifraga*.

Wall Bell-flower (*Campanula muralis*)—see *Campanula*.

Wall Fern (*Polypodium vulgare*)—see *Polypodium*.

Wallflower (*Cheiranthus cheiri*)—see *Cheiranthus*.

Wallflower-leaved Stock (*Mathiola græca*)—see *Mathiola*.

Wallflower-like Sun-rose (*Helianthemum cheiranthoides*)—see *Helianthemum*.

Wall Gilliflower (*Cheiranthus cheiri*)—see *Cheiranthus*.

Wallichia.—*Ord.* Palmaceæ. Stove palm. *Orn. foliage.* *Nat.* India. *Int.* 1825. *Species* cultivated, 2. *Ht.* 6 to 12 ft. *Leaves* feather-shaped. *Compost*, two parts rich loam, one part leaf-mould, little sand. *Position*, well drained pots in moist part of stove. *Pot.*, Feb. *Water* copiously, Feb. to Oct., moderately afterwards. *Syringe* daily, sun. *Shade* from sun. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by suckers removed with roots attached, Feb. or Mar.

Wall Moss (*Sedum acre*)—see *Sedum*.

Wall Penny Grass (*Cotyledon umbilicus*)—see *Cotyledon*.

Wall Penny-wort (*Cotyledon umbilicus*)—see *Cotyledon*.

Wall Pepper (*Sedum acre*)—see *Sedum*.

Wall Rue (*Asplenium ruta-muraria*)—see *Asplenium*.

Wall-Rue Spleenwort (*Asplenium ruta-muraria*)—see *Asplenium*.

Walnut Oil-plant (*Juglans regia*)—see *Juglans*.

Walnut Tree (*Juglans regia*)—see *Juglans*.

Wandering Jew (*Saxifraga sarmentosa*)—see *Saxifraga*.

Warcewicyella.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Central America, New Grenada. *Int.* 1867. *Ht.* 6 to 12 in. *Species* cultivated, 6. *Flowers*, white, cream, violet, purple; autn. *Compost*, equal parts rough fibrous peat & sphagnum moss & charcoal. *Position*, well drained pots or on blocks of wood (roots being covered with sphagnum moss), or in baskets suspended from roof. *Pot.*, etc., Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec. Give very little, Dec. to Ap. *Shade* from sun in sum. *Moist* atmosphere essential. *Temp.*, Mar. to June, 58° to 65°; Dec. to Mar., 53° to 60°. *Propagate* by division, any time.

Warrea.—*Ord.* Orchidaceæ. Stove terrestrial orchids. *Nat.* Brazil, U.S. of Columbia. *Int.* 1843. *Species* cultivated, 2; varieties, 2. *Flowers*, white, yellow, purple, blue; June or July. *Compost*, equal parts leaf-mould, loam, & decayed cow-manure. *Pot.*, Mar. or Ap. *Position*, well drained pots in warm moist part of stove during growing period; cool & dry part during resting period. *Cover* drainage with layer of moss, & do not allow compost to be higher than half an inch below rim. *Water* freely, Ap. to Sept.; moderately, Sept. to Jan.; keep nearly dry, Jan. to Mar. *Temp.*, Mar. to Sept., 65° to 85°; Sept. to Jan., 60° to 70°; Jan. to Mar., 55° to 65°. *Growing period*: Mar. to Oct.; *resting period*: Oct. to Mar. *Propagate* by division of pseudo-bulbs, Mar. or Ap.

Washington Lily (*Lilium Washingtonianum*)—see *Lilium*.

Washington Thorn (*Cratægus cordata*)—see *Cratægus*.

Wasted-barked Ash (*Fraxinus excelsior verrucosa*)—see *Fraxinus*.

Wasty-barked Spindle-tree (*Euonymus verrucosus*)—see *Euonymus*.

Water Agrimony (*Eupatorium cannabinum*)—see *Eupatorium*.

Water Aloe (*Stratiotes aloides*)—see *Stratiotes*.

Water Archer (*Sagittaria sagittifolia*)—see *Sagittaria*.

Water Arum (*Calla palustris*)—see *Calla*.

Water Ash (*Fraxinus sambucifolia*)—see *Fraxinus*.

Water Bean (*Nelumbium speciosum*)—see *Nelumbium*.

Water Beech (*Carpinus americana* & *Platanus occidentalis*)—see *Carpinus* & *Platanus*.

Water Buttercup (*Calla palustris*)—see *Calla*.

Water Caltrops (*Trapa natans*)—see *Trapa*.

Water Cedar (*Chamaecyparis sphaeroidea*)—see *Chamaecyparis*.

Water Chestnut (*Trapa natans*)—see *Trapa*.

Water Chinquapin (*Nelumbium luteum*)—see *Nelumbium*.

Watercress (*Nasturtium officinale*)—see *Nasturtium*.

- Water Elder (*Viburnum opulus*)—see *Viburnum*.
 Water Featherfoil (*Hottonia palustris*)—see *Hottonia*.
 Water Fern (*Osmunda regalis*)—see *Osmunda*.
 Water Flag (*Iris pseudo-acorus*)—see *Iris*.
 Water Gilliflower (*Hottonia palustris*)—see *Hottonia*.
 Water Gladiolus (*Butomus umbellatus*)—see *Butomus*.
 Water Gowan (*Caltha palustris*)—see *Caltha*.
 Water Grass (*Nasturtium officinale*)—see *Nasturtium*.
 Water Hemp (*Eupatorium cannabinum*)—see *Eupatorium*.
 Water Lemon (*Passiflora laurifolia*)—see *Passiflora*.
 Water Maize (*Victoria regia*)—see *Victoria*.
 Water Melon (*Cucumis citrullus*)—see *Cucumis*.
 Water Nut (*Trapa nauplius*)—see *Trapa*.
 Water Platter (*Victoria regia*)—see *Victoria*.
 Water Soldier (*Stratiotes aloides*)—see *Stratiotes*.
 Water Trefoil (*Menyanthes trifoliata*)—see *Menyanthes*.
 Water Violet (*Hottonia palustris*)—see *Hottonia*.

Watsonia (Bugle Lily).—*Ord.* Iridaceæ. Half-hardy bulbous plants. *Nat. S. Africa.* *Int.* 1750. *Ht.* 6 to 18 in. *Species* cultivated, 10; *varieties* several. *Flowers*, scarlet, pink, crimson, red, rose, flesh; June to Sept. **OUTDOOR CULTURE:** *Soil*, deep rich, liberally manured. *Position*, sunny, sheltered, well drained beds or borders. *Plant*, Nov., Feb. or Mar. *Place* corms 4 in. deep & 6 in. apart in groups of three, six, or twelve; put a little silver sand under each corm. *Protect* in winter with layer of manure. *Apply* liquid manure when flower buds form. *Fix* stakes to spikes when 2 or 3 in. high. *Lift* corms in Sept., & store in cool place till planting time. **POT CULTURE:** *Compost*, two parts loam, one part well decayed manure & river sand. *Position*, pots in cold frame, cool greenhouse or window. *Pot*, Oct. to Mar., placing five corms 1 in. deep in a 6-in. pot. *Place* pots in cold frame till flower spikes show, then remove to greenhouse or window. *Water* moderately at first; freely afterwards. *Apply* liquid manure when flower spikes show. *After flowering*, gradually withhold water till foliage dies, then keep quite dry till repotted. *Propagate* by seeds sown $\frac{1}{2}$ in. deep in pans of light rich soil in Feb., in temp. 55° to 65°; by bulbils planted 2 in. deep & 6 in. apart in sunny border outdoors, Mar.

- Wavy-leaved Rock-rose (*Cistus undulatus*)—see *Cistus*.
 Wax Dammar (*Podocarpus neriifolia*)—see *Podocarpus*.
 Wax-flower (*Hoya carnosa*)—see *Hoya*.
 Wax Myrtle (*Myrica cerifera*)—see *Myrica*.
 Wax-plant (*Cerithe major*)—see *Cerithe*.
 Wax-work (*Celastrus caudens*)—see *Celastrus*.
 Wayfaring Tree (*Viburnum lantana*)—see *Viburnum*.
 Way Thorn (*Rhamnus catharticus*)—see *Rhamnus*.
 Weasel Chop (*Mesembryanthemum mustelinum*)—see *Mesembryanthemum*.
 Weeping Almond-tree (*Amygdalus communis pendula*)—see *Amygdalus*.
 Weeping Ash (*Fraxinus excelsior pendula*)—see *Fraxinus*.
 Weeping Aspen (*Populus tremula pendula*)—see *Populus*.
 Weeping Beech (*Fagus sylvatica pendula*)—see *Fagus*.
 Weeping Cypress (*Cupressus funebris*)—see *Cupressus*.
 Weeping Deciduous Cypress (*Taxodium distichum microphyllum*)—see *Taxodium*.
 Weeping Elm (*Ulmus glabra pendula*)—see *Ulmus*.
 Weeping Grey Poplar (*Populus canescens pendula*)—see *Populus*.

- Weeping Hawthorn (*Crataegus oxyacantha pendula*)—see *Crataegus*.
 Weeping Kilmarnock Willow (*Salix caprea pendula*)—see *Salix*.
 Weeping Laburnum-tree (*Cytisus laburnum pendulus*)—see *Cytisus*.
 Weeping Mountain Ash (*Pyrus Aucuparia pendula*)—see *Pyrus*.
 Weeping Norway Spruce (*Abies excelsa pendula*)—see *Abies*.
 Weeping Peach-tree (*Persica vulgaris pendula*)—see *Persica*.
 Weeping Pear-tree (*Pyrus spuria pendula*)—see *Pyrus*.
 Weeping Plum-tree (*Prunus cerasifera*)—see *Prunus*.
 Weeping Poplar (*Populus pendula*)—see *Populus*.
 Weeping Red Cedar (*Juniperus virginiana pendula*)—see *Juniperus*.
 Weeping Red-flowered Dwarf Buck-eye (*Pavia rubra humilis pendula*)—see *Pavia*.
 Weeping Willow (*Salix Babylonica*)—see *Salix*.
 Weeping Wych Elm (*Ulmus montana pendula*)—see *Ulmus*.
 Weigela—see *Diervilla*.
 Welcome-to-our-house (*Euphorbia cyparissius*)—see *Euphorbia*.
 Welfia.—Ord Palmaceæ. Stove palm. Orn. foliage. *N.t.* New Grenada. *Int.* 1869. *Ht.* 10 to 30 ft. *Species* cultivated, 1. *Leaves*, partially feather-shaped; bronzy green. *Compost*, rich loam one part, equal proportions leaf-mould, decayed cow-manure, & little sand. *Position*, well drained pots in moist part of stove. *Pot.* Feb. *Shade* from sun. *Syringe* daily, Mar. to Oct. *Moist* atmosphere essential. *Water* copiously, Mar. to Oct.; moderately other times. *Temp.*, Mar. to Oct., 65° to 85°; Oct. to Mar., 55° to 65°. *Propagate* by seeds previously soaked in tepid water, then sown an inch deep in turfy loam & leaf-mould in temp. 65° to 75°, spring.
 Wellingtonia (*Sequoia gigantea*)—see *Sequoia*.
 Welsh Nut (*Juglans regia*)—see *Juglans*.
 Welsh Polypody (*Polypodium vulgare cambricum*)—see *Polypodium*.
 Welsh Poppy (*Meconopsis cambrica*)—see *Meconopsis*.
 West Coast Creeper (*Asclepias odoratissima*)—see *Asclepias*.
 Western Arbor-vitæ (*Thuja gigantea*)—see *Thuja*.
 Western Daisy (*Bellis integrifolia*)—see *Bellis*.
 Western Honeysuckle (*Lonicera occidentalis*)—see *Lonicera*.
 Western Plane-tree (*Platanus occidentalis*)—see *Platanus*.
 Western Red Fir (*Abies magnifica*)—see *Abies*.
 Western Wallflower (*Erysimum arkansanum*)—see *Erysimum*.
 Western White Fir (*Abies concolor*)—see *Abies*.
 West Indian Bay-berry (*Eugenia pimenta*)—see *Eugenia*.
 West Indian Blood-flower (*Asclepias curassavica*)—see *Asclepias*.
 West Indian Butterfly Plant (*Oncidium papilio*)—see *Oncidium*.
 West Indian Foxglove (*Phytolacca decandra*)—see *Phytolacca*.
 West Indian Honeysuckle (*Tecoma capensis*)—see *Tecoma*.
 West Indian Hoop-Withe (*Rivina humilis*)—see *Rivina*.
 West Indian Myrtle (*Eugenia pimenta*)—see *Eugenia*.
 West Indian Pagoda-tree (*Plumieria alba*)—see *Plumieria*.
 West Indian Prune-tree (*Prunus occidentalis*)—see *Prunus*.
 West Indian Swamp Pea-tree (*Sesbania occidentalis*)—see *Sesbania*.
 Weymouth Pine-tree (*Pinus strobus*)—see *Pinus*.
 Whin (*Ulex europæus*)—see *Ulex*.
 Whin-berry (*Vaccinium myrtillus*)—see *Vaccinium*.
 White-and-Rose-flowered Lupin (*Lupinus subcarnosus*)—see *Lupinus*.
 White Ash (*Fraxinus alba*)—see *Fraxinus*.

- White Aspen (*Populus alba*)—see Populus.
 White Azorian Jasmine (*Jasminum azoricum*)—see Jasminum.
 White Autumn Crocus (*Crocus Boryi*)—see Crocus.
 White Bass-wood (*Tilia heterophylla*)—see Tilia.
 White Bay-tree (*Magnolia glauca*)—see Magnolia.
 White Beam-tree (*Pyrus aria*)—see Pyrus.
 White Beech (*Carpinus betulus*)—see Carpinus.
 White Beet (*Beta cicla*)—see Beta.
 White-berried Dog-wood (*Cornus alba*)—see Cornus.
 White-berried Holly (*Ilex aquifolium fructo-albo*)—see Ilex.
 White-berried Privet (*Ligustrum vulgare leucocarpum*)—see Ligustrum.
 White-berried Whortleberry (*Vaccinium myrtillus albis-baccis*)—see Vaccinium.
 White Box Tree of N. S. Wales (*Pittosporum undulatum*)—see Pittosporum.
 White Buttercup (*Ranunculus amplexicaulis*)—see Ranunculus.
 White Campion (*Lychnis vespertina*)—see Lychnis.
 White Cape Hyacinth (*Galtonia candicans*)—see Galtonia.
 White Cedar (*Cupressus thyoides*, *Libocedrus decurrens* & *Thuia occidentalis*)—see Cupressus, Libocedrus & Thuia.
 White Cohosh (*Actæa alba*)—see Actæa.
 White-eyed Nightshade (*Solanum marginatum*)—see Solanum.
 White Filbert (*Corylus avellana tubulosa alba*)—see Corylus.
 White Fir (*Abies excelsa*)—see Abies.
 White-flowered Broom (*Genista monosperma*)—see Genista.
 White-flowered Butter-wort (*Pinguicula alpina*)—see Pinguicula.
 White-flowered Columbine (*Aquilegia vulgaris alba*)—see Aquilegia.
 White-flowered Currant (*Ribes sanguineum album*)—see Ribes.
 White-flowered Dwarf Phlox (*Phlox nivalis*)—see Phlox.
 White-flowered Early Forget-me-not (*Myosotis dissitiflora alba*)—see Myosotis.
 White-flowered Fraxinella (*Dictamnus fraxinella albus*)—see Dictamnus.
 White-flowered Fume-wort (*Corydalis cava albiflora*)—see Corydalis.
 White-flowered Gooseberry (*Ribes niveum*)—see Ribes.
 White-flowered Honesty (*Lunaria biennis albiflora*)—see Lunaria.
 White-flowered Indian Jasmine (*Jasminum Sambac*)—see Jasminum.
 White-flowered Indian Periwinkle (*Vinca rosea alba*)—see Vinca.
 White-flowered Irish Heath (*Menziesia alba*)—see Menziesia.
 White-flowered Laburnum-tree (*Cytisus albidus*)—see Cytisus.
 White-flowered Lung-wort (*Pulmonaria saccharata alba*)—see Pulmonaria.
 White-flowered Mullein (*Verbascum lychnitis*)—see Verbascum.
 White-flowered Pæony (*Pæonia albiflora*)—see Pæonia.
 White-flowered Periwinkle (*Vinca minor alba*)—see Vinca.
 White-flowered Plantain Lily (*Funkia subcordata*)—see Funkia.
 White-flowered Quamash (*Camassia esculenta alba*)—see Camassia.
 White-flowered Rhododendron (*Rhododendron albiflorum*)—see Rhododendron.

White-flowered Round-leaved Cyclamen (*Cyclamen coum album*)—see Cyclamen.

White-flowered Sage (*Salvia argentea*, *S. officinalis alba*, *S. patens alba*, & *S. patula*)—see Salvia.

White-flowered Spring Heath (*Erica carnea alba*)—see Erica.

White-flowered Spurge (*Poinsettia pulcherrima albida*)—see Poinsettia.

White-flowered Stonecrop (*Sedum album*)—see Sedum.

White-flowered Thrift (*Armeria maritima alba*)—see Armeria.

White Fritillary (*Fritillaria melagris alba*)—see Fritillaria.

White-fruited Currant (*Ribes rubrum album*)—see Ribes.

White-fruited Egg-plant (*Solanum melongena fructu-alba*)—see Solanum.

White-fruited Spindle-tree (*Euonymus europæus fructu-alba*)—see Euonymus.

White Heart Cherry (*Cerasus duracina*)—see Cerasus.

White Hellebore (*Veratrum album*)—see Veratrum.

White Helleborine (*Cephalanthera grandiflora*)—see Cephalanthera.

White Henbane (*Hyoscyamus albus*)—see Hyoscyamus.

White Honeysuckle (*Azalea viscosa*)—see Azalea.

White Hyacinth Bean (*Dolichos albus*)—see Dolichos.

White Italian Honeysuckle (*Lonicera caprifolium alba*)—see Lonicera.

White Lady's Slipper (*Cypripedium candidum*)—see Cypripedium.

White-leaved Sun-rose (*Helianthemum polifolium*)—see Helianthemum.

White Lily (*Lilium candidum*)—see Lilium.

White-lipped Whortleberry (*Vaccinium leucostomum*)—see Vaccinium.

White Maidenhair Fern (*Asplenium ruta-muraria*)—see Asplenium.

White Mallow (*Althæa officinalis*)—see Althæa.

White Maple (*Acer dasycarpum*)—see Acer.

White-margined Plantain Lily (*Funkia marginata*)—see Funkia.

White Mariposa Lily (*Calochortus venustus*)—see Calochortus.

White Mulberry-tree (*Morus alba*)—see Morus.

White Musk Mallow (*Malva moschata alba*)—see Morus.

White Mustard (*Sinapis alba*)—see Sinapis.

White Nosegay-tree (*Plumieria alba*)—see Plumieria.

White Oak (*Quercus sessiliflora*)—see Quercus.

White Persian Lilac (*Syringa persica alba*)—see Syringa.

White Pine (*Pinus strobus*)—see Pinus.

White Poplar (*Populus alba*)—see Populus.

White Poppy (*Papaver somniferum*)—see Papaver.

White Runner Bean (*Phaseolus multiflorus albiflorus*)—see Phaseolus.

White Sassafras-tree (*Laurus albida*)—see Laurus.

White Shell-flower (*Chelone glabra*)—see Chelone.

White Spider-wort (*Tradescantia virginica alba*)—see Tradescantia.

White Spruce (*Abies alba*)—see Abies.

White Spruce Fir (*Abies alba*)—see Abies.

White Swamp Oak (*Quercus bicolor*)—see Quercus.

White Thorn (*Cratægus oxyacantha*)—see Cratægus.

White Tiger Flower (*Tigridia pavonia albiflora*)—see Tigridia.

White Variegated Elm (*Ulmus campestris foliis variegatis*)—see *Ulmus*.

White Variegated Sycamore-tree (*Acer pseudo-platanum albo-variegatum*)—see *Acer*.

White Walnut-tree (*Juglans cinerea*)—see *Juglans*.

White Water Lily (*Nymphaea alba*)—see *Nymphaea*.

White Willow (*Salix alba*)—see *Salix*.

White Wood (*Tilia americana*)—see *Tilia*.

White Zephyr-flower (*Zephyranthes candida*)—see *Zephyranthes*.

Whitish-flowered Laburnum (*Cytisus leucanthus*)—see *Cytisus*.

Whitish-leaved Barberry (*Berberis dealbata*)—see *Berberis*.

Whitish-leaved Sun-rose (*Helianthemum canescens*)—see *Helianthemum*.

Whitlavia.—Ord. Hydrophyllaceæ. Hardy annual. *Nat. California*. *Int.* date unknown. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, blue; June. *Soil*, ordinary rich. *Position*, sunny or partially shaded beds or borders. *Sow* seeds in patches or lines where required to grow in Ap. *Thin* seedlings 2 to 3 in. apart in June.

Whitlow Grass (*Draba aizoides* & *Saxifraga trifurcata*)—see *Draba* & *Saxifraga*.

Whitlow-wort (*Paronychia argentea*)—see *Paronychia*.

Whitsun Lily (*Narcissus poeticus*)—see *Narcissus*.

Whorled Holly (*Ilex aquifolium verticillata*)—see *Ilex*.

Whorled-leaved American Lily (*Lilium philadelphicum*)—see *Lilium*.

Whorled Primula (*Primula verticillata*)—see *Primula*.

Whorl-leaved Tick-seed (*Coreopsis verticillata*)—see *Coreopsis*.

Whortleberry (*Vaccinium myrtillus*)—see *Vaccinium*.

Whortle Bilberry (*Vaccinium myrtillus*)—see *Vaccinium*.

Whortled Solomon's Seal (*Polygonatum verticillatum*)—see *Polygonatum*.

Widow's Flower (*Scabiosa atro-purpurea*)—see *Scabiosa*.

Wig Tree (*Rhus cotinus*)—see *Rhus*.

Wigandia.—Ord. Hydrophyllaceæ. Stove orn. foliage plants. *Nat.* Caraccas., Mexico. *Int.* 1836. *Ht.* 3 to 10 ft. *Species* cultivated, 2. *Flowers*, lilac; sum. *Leaves*, large, very wrinkled, more or less downy. *Soil*, ordinary. *Position*, sunny sheltered beds outdoors, May to Oct.; warm greenhouse remainder of year. *Plant*, May or June. *Lift*, Sept. or Oct. *Propagate* by seeds sown in light soil in temp. 65° to 75° in Feb.; cuttings inserted in sandy soil under bell glass in temp. 75° in spring. Usually treated as an annual; seldom preserved during the winter.

Wild American Crane's-bill (*Geranium maculatum*)—see *Geranium*.

Wild Candytuft (*Iberis amara*)—see *Iberis*.

Wild Caper Bush (*Euphorbia lathyris*)—see *Euphorbia*.

Wild Cotton (*Eriophorum polystachyon*)—see *Eriophorum*.

Wild Damson (*Prunus insitia*)—see *Prunus*.

Wild Flax (*Linaria vulgaris*)—see *Linaria*.

Wild Geranium (*Geranium Robertianum* & *G. pratense*)—see *Geranium*.

Willow Herb (*Epilobium hirsutum*)—see *Epilobium*.

Wild Hyacinth (*Scilla nutans*)—see *Scilla*.

Wild Ipecacuanha (*Asclepias curassavica*)—see *Asclepias*.

Wild Lemon-tree (*Podophyllum peltatum*)—see *Podophyllum*.

Wild Liquorice Plant of India (*Abrus precatorius*)—see *Abrus*.

Wild Marsh Beet (*Statice limonium*)—see *Statice*.

- Wild Medlar** (*Mespilus germanica sylvestris*)—see *Mespilus*.
Wild Nard (*Asarum europæum*)—see *Asarum*.
Wild Olive-tree (*Olea oleaster* & *Elæagnus angustifolius*)—see *Olea* & *Elæagnus*.
Wild Plum-tree (*Prunus communis*)—see *Prunus*.
Wild Red American Raspberry (*Rubus strigosus*)—see *Rubus*.
Wild Service-tree (*Pyrus torminalis*)—see *Pyrus*.
Wild Snowball (*Ceanothus americanus*)—see *Ceanothus*.
Wild Spinach (*Chenopodium Bonus-Henricus*)—see *Chenopodium*.
Wild Sweet William of North America (*Phlox maculata*)—see *Phlox*.
Wild Teasel (*Dipsacus sylvestris*)—see *Dipsacus*.
Wild Tulip (*Tulipa sylvestris*)—see *Tulipa*.
Wild Tulip of California (*Calochortus venustus*)—see *Calochortus*.
Wild Turkey Pea (*Corydalis formosa*)—see *Corydalis*.
Wild Wood Vine (*Ampelopsis quinquefolia*)—see *Ampelopsis*.
Wilding (*Pyrus malus*)—see *Pyrus*.
Willow (*Salix alba*)—see *Salix*.
Willow Herb (*Epilobium angustifolium*)—see *Epilobium*.
Willow-leaved Ox-eye (*Bupthalmum salicifolium*)—see *Bupthalmum*.
Willow-leaved Pear-tree (*Pyrus salicifolia*)—see *Pyrus*.
Willow-leaved Poplar (*Populus nigra salicifolia*)—see *Populus*.
Willow-leaved Sea Buckthorn (*Hippophaë salicifolia*)—see *Hippophaë*.
Willow-leaved Speedwell (*Veronica salicifolia*)—see *Veronica*.
Willow Oak (*Quercus Phellos* & *Q. salicina*)—see *Quercus*.
Willow Thorn (*Hippophaë rhamnoides*)—see *Hippophaë*.
Willow-weed (*Lythrum salicaria*)—see *Lythrum*.
Wilson's Filmy Fern (*Hymenophyllum Wilsoni*)—see *Hymenophyllum*.
Windflower (*Anemone nemorosa*)—see *Anemone*.
Windflower Crow-foot (*Ranunculus anemonoides*)—see *Ranunculus*.
Windflower Meadow Rue (*Thalictrum anemonoides*)—see *Thalictrum*.
Wind-root (*Asclepias tuberosa*)—see *Asclepias*.
Winged Elm (*Ulmus alata*)—see *Ulmus*.
Winged Everlasting (*Ammobium alatum*)—see *Ammobium*.
Winged Seed (*Ptelea trifoliata*)—see *Ptelea*.
Winter Aconite (*Eranthis hyemalis*)—see *Eranthis*.
Winter-blooming Iris (*Iris scorpioides*)—see *Iris*.
Winter Bloom (*Hamamelis virginica*)—see *Hamamelis*.
Winter Cactus (*Epiphyllum truncatum*)—see *Epiphyllum*.
Winter Cherry (*Physalis Alkekengi* & *Solanum capsicastrum* [*pseudocapsicum*])—see *Physalis* & *Solanum*.
Winter Clover (*Mitchella repens*)—see *Mitchella*.
Winter Cress (*Barbarea vulgaris*)—see *Barbarea*.
Winter Daffodil (*Sternbergia lutea*)—see *Sternbergia*.
Winter-flowering Flax (*Linum trigynum*)—see *Linum*.
Winter-flowering Honeysuckle (*Lonicera fragrantissima*)—see *Lonicera*.
Winter-flowering Jasmine (*Jasminum nudiflorum*)—see *Jasminum*.
Winter Gilliflower (*Hesperis matronalis*)—see *Hesperis*.
Winter Green (*Pyrola minor*)—see *Pyrola*.

Winter-green Chickweed (*Trientalis europæa*)—see *Trientalis*.

Winter-green Oil-plant (*Gaultheria procumbens*)—see *Gaultheria*.

Winter Heath (*Erica carnea*)—see *Erica*.

Winter Heliotrope (*Tussilago fragrans*)—see *Tussilago*.

Winter Hellebore (*Eranthis hyemalis*)—see *Eranthis*.

Winter Hyacinth (*Scilla autumnalis*)—see *Scilla*.

Winter Purslane (*Claytonia perfoliata*)—see *Claytonia*.

Winter Rocket (*Barbarea vulgaris*)—see *Barbarea*.

Winter Savory (*Satureia montana*)—see *Satureia*.

Winter Snowflake (*Leucojum hyemale*)—see *Leucojum*.

Winter Sweet (*Origanum heracleoticum* & *Toxicophæa spectabilis*)—see *Origanum* & *Toxicophæa*.

Winter Wolf's-bane (*Eranthis hyemalis*)—see *Eranthis*.

Wistaria (*Wistaria sinensis*)—see *Wistaria*.

Wistaria (Grape-flower Vine, American Kidney-bean Tree).—*Ord.* Leguminosæ. Hardy deciduous climbing flowering shrubs. *Nat.* Japan, China, N. America. *Int.* common species (*W. chinensis*), 1816; American species (*W. frutescens*), 1724. *Ht.* 3 to 20 ft. *Species* cultivated, 5; varieties several. *Flowers*, violet, purple, white, lilac; Ap. to Sept. *Soil*, deep rich sandy loam. *Position*, well drained borders against S. or S.W. walls for *W. chinensis*, *W. japonica*, & *W. multijuga*; as standards in shrubbery or on lawns in sheltered districts. *Plant*, Mar. or Ap. *Prune*, Jan. or Feb., shortening shoots not required for extending branches to within 1 in. of base. *Propagate* by layering young shoots during sun.

Witch Elm (*Ulmus montana*)—see *Ulmus*.

Witch Hazel (*Ulmus montana*)—see *Ulmus*.

Witch's Bell-flower (*Campanula rotundifolia*)—see *Campanula*.

Withy (*Salix viminalis*)—see *Salix*.

Witsenia.—*Ord.* Iridaceæ. Greenhouse evergreen flowering shrub. *Nat.* S. Africa. *Int.* 1893. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, purple; June & July. *Compost*, two parts good peat, one part sandy loam, & little sand. *Position*, well drained pots in light airy greenhouse. *Pot.*, Feb. or Mar. *Water* copiously, Ap. to Oct.; moderately afterwards. *Temp.*, Oct. to Mar., 40° to 50°; Mar. to Oct., 50° to 60°. An abundance of air required in sum.; moderate amount other times. *Propagate* by seeds sown in sandy loam & peat in temp., 55° to 65° in spring; by offsets removed from parent plant, Mar. or Ap.

Wold-wolle-fibre-plant (*Pinus sylvestris* & *P. laricio*)—see *Pinus*.

Wolf's-bane (*Aconitum lycoctonum*)—see *Aconitum*.

Wolf-berry (*Symphoricarpos occidentalis*)—see *Symphoricarpos*.

Wolf-chop (*Mesembryanthemum lupinum*)—see *Mesembryanthemum*.

Wolf's-chop Fig Marigold (*Mesembryanthemum lupinum*)—see *Mesembryanthemum*.

Wolf's Claws (*Lycopodium clavatum*)—see *Lycopodium*.

Wonga Wonga Vine (*Tecoma australis*)—see *Tecoma*.

Wood Anemone (*Anemone nemorosa*)—see *Anemone*.

Wood Bells (*Scilla nutans*)—see *Scilla*.

Woodbine (*Lonicera periclymenum*)—see *Lonicera*.

Wood Fern (*Polypodium vulgare*)—see *Polypodium*.

Wood Forget-me-not (*Myosotis sylvatica*)—see *Myosotis*.

Wood Geranium (*Geranium sylvaticum*)—see *Geranium*.

Wood Ginger (*Anemone ranunculoides*)—see *Anemone*.

Wood Horsetail (*Equisetum sylvaticum*)—see *Equisetum*.

Wood Laurel (*Daphne laureola*)—see *Daphne*.

Wood Lily (*Pyrola minor*)—see *Pyrola*.

Wood Loosestrife (*Lysimachia nemorum*)—see *Lysimachia*.

Wood-nut (*Corylus avellana*)—see *Corylus*.

Woodruff (*Asperula odorata*)—see *Asperula*.

Woodsia.—Ord. Filices. Greenhouse & hardy ferns. Deciduous & evergreen. *Nat.* Europe (Britain), U. S. & N. America, Mexico, Japan. *Int.* (foreign species) 1816. *Ht.* 6 to 12 in. *Species* cultivated, 3 greenhouse; 6 hardy. *Fronds*, feather-shaped. *CULTURE OF GREENHOUSE SPECIES*: *Compost*, equal parts peat & loam, with little silver sand, & charcoal. *Position*, well drained pots or beds in shady greenhouse. *Pot* or plant, Feb. or Mar. *Water* freely, Mar. to Oct.; moderately afterwards. *Syringing* not required. *Shade* from sun. *Temp.*, Sept. to Mar., 45° to 50°; Mar. to Sept., 50° to 60°. *CULTURE OF HARDY SPECIES*: *Compost*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. *All* the hardy species are suitable for greenhouse culture. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° at any time; division of plants, Mar. or Ap.

Wood Sorrel (*Oxalis acetosella*)—see *Oxalis*.

Wood Spurge (*Euphorbia amygdaloides*)—see *Euphorbia*.

Woodwardia (Chain Fern).—Ord. Filices. Greenhouse & hardy, evergreen & deciduous ferns. *Nat.* Japan, S. Europe, N. America. *Int.* 1774. *Ht.* 1 to 3 ft. *Species* cultivated, 3 greenhouse; 2 hardy; varieties several. *Fronds*, large, coarsely divided. *CULTURE OF GREENHOUSE SPECIES*: *Compost*, equal parts loam & leaf-mould or peat. *Position* in well drained pots, or on rockeries in cool greenhouse or fernery. *Water* freely in sum.; moderately other times. *Syringe* daily in sum. *W. radicans* & *W. r. cristata* suitable for suspending in baskets. *CULTURE OF HARDY SPECIES*: *Soil*, equal parts peat & loam. *Position*, shady borders or banks. *Plant*, Ap. *Water* copiously in dry weather. *Greenhouse* species will also grow outdoors in sheltered positions, & with the protection of litter in winter. *Hardy* species are deciduous. *Propagate* by spores sown on surface of fine peat in well drained pans, placed in temp. of 75° any time; division of plants, Mar. or Ap.; by bulbils removed from fronds & placed in small pots in temp. of 65° to 70° until roots form.

Wood Windflower (*Anemone nemorosa*)—see *Anemone*.

Woody-stemmed Sun-rose (*Helianthemum lignosum*)—see *Helianthemum*.

Woolly Clematis (*Clematis lanuginosa*)—see *Clematis*.

Woolly Cloak Fern (*Nothochlæna distans*)—see *Nothochlæna*.

Woolly-coned White Fir (*Picea amabilis*)—see *Picea*.

Woolly Otonaeaster (*Cotoneaster tomentosus*)—see *Cotoneaster*.

Woolly Foxglove (*Digitalis lanata*)—see *Digitalis*.

Woolly Lavender Cotton (*Santolina incana*)—see *Santolina*.

Woolly-leaved Hydrangea (*Hydrangea heteromalla*)—see *Hydrangea*.

Woolly-leaved Sun-rose (*Helianthemum tomentosum*)—see *Helianthemum*.

Woolly Milfoil (*Achillea tomentosa*)—see *Achillea*.

Woolly White Alder (*Clethra tomentosa*)—see *Clethra*.

Woolly Woundwort (*Stachys lanata*)—see *Stachys*.

Woolly Yarrow (*Achillea tomentosa*)—see *Achillea*.

Worm Grass (*Sedum album*)—see *Sedum*.

Worm-seed (*Artemisia maritima*)—see *Artemisia*.

Wormwood (*Artemisia absinthium*)—see *Artemisia*.

Wreath Lily (*Myrsiphyllum asparagoides*)—see *Myrsiphyllum*.

Wulfenia.—Ord. Scrophulariaceæ. Hardy perennial herbs. *Nat.* Himalayas, Carinthian Alps. *Int.* 1817. *Ht.* 9 to 18 in. *Species* cultivated, 2. *Flowers*, lilac, blue; July. *Soil*, light rich sandy loam. *Position*, partially

shady rockeries. *Plant*, Mar. or Ap. *Propagate* by seeds sown in light sandy soil in shallow boxes in cold frame in Mar. or Ap., transplanting seedlings when large enough to handle on to rockery; by division of plants in Mar. or Ap.

Wulfen's Buckthorn (*Rhamnus Wulfeni*)—see *Rhamnus*.

Wych Elm (*Ulmus montana*)—see *Ulmus*.

Wych Hazel (*Ulmus montana*)—see *Ulmus*.

Xanthoceras.—*Ord.* Sapindaceæ. Hardy deciduous flowering tree. *Nat.* China. *Int.* 1870. *Ht.* 5 to 15 ft. *Species* cultivated, 1. *Flowers*, white, streaked with blood-red; *sum.* *Leaves*, feather shaped, *Soil*, ordinary. *Position*, sunny borders or shrubberies. *Plant*, Oct. to Feb. *Propagate* by seeds sown in light soil outdoors in autn. or spring.

Xanthorhiza (American Yellow root shrub).—*Ord.* Ranunculaceæ. Hardy deciduous shrub. *Nat.* N. America. *Int.* 1766. *Ht.* 1 to 3 ft. *Species* cultivated, 1. *Flowers*, purple, green; Feb. *Soil*, equal parts sandy loam & peat. *Position*, moist partially shady border. *Plant*, Oct., Nov., Mar. or Ap. *Propagate* by suckers removed from parent plants, Oct. or Ap.

Xanthosoma.—*Ord.* Aroidaceæ. Stove perennial herbs. *Orn.* foliage. *Nat.* Brazil, Venezuela, Mexico, S. America, New Grenada. *Int.* 1710. *Ht.* 1 to 5 ft. *Species* cultivated, about 12. *Leaves*, arrow-head shaped, green or variegated. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure, & silver sand. *Position*, well drained pots in shade. *Pot* moderately firm in pots just large enough to take tubers in Feb. or Mar.; transfer to larger pots in Ap. or May. *Water* moderately, Feb. to Ap. & Sept. to Nov.; freely, Ap. to Sept.; keep quite dry, Nov. to Feb. *Temp.*, Feb. to Sept., 70° to 80°; Sept. to Nov., 65° to 75°; Nov. to Feb., 55° to 65°. *Propagate* by dividing the tubers in Feb. or Mar.

Xeranthemum (Everlastings, Immortelle, Annual Everlasting).—*Ord.* Compositæ. Hardy annuals. *Nat.* S. Europe. *Int.* 1570. *Ht.* 18 in. to 2 ft. *Species* cultivated, 1; varieties several. *Flowers*, white, purple, violet; single & double; *sum.*; suitable for winter decoration. *Soil*, ordinary. *Position*, sunny beds or borders. *Sow* seeds in light soil in Mar., in temp. 55° to 65°, planting out in June, or in open ground end of Ap. *Gather* flowers for winter decoration directly they are fully expanded.

Xerophyllum (Turkey's Beard).—*Ord.* Liaceæ. Hardy annual aquatic herb. *Nat.* N. America. *Int.* 1765. *Species* cultivated, 1. *Ht.* 12 in. *Flowers*, white; May. *Soil*, moist sandy peat. *Position*, boggy gardens or margins of ponds or lakes. *Plant*, Mar. or Ap. *Propagate* by seeds sown in moist peaty soil in Ap. where required to grow, or by division of roots in Mar. or Ap.

Xylobium.—*Ord.* Orchidaceæ. Stove epiphytal orchids. *Nat.* Central America, Venezuela, Brazil. *Int.* 1826. *Ht.* 9 to 12 in. *Species* cultivated, 6. *Flowers*, yellow, purplish, brown, flesh; highly scented; various periods. *Compost*, equal parts fibry peat & chopped sphagnum moss, with little sand & charcoal. *Position*, well drained pots, pans, or baskets in light part of greenhouse. *Pot* when new growth commences. *Water* deciduous species freely from time new growth begins until Nov., then occasionally; evergreen species freely from Mar. to Nov.; moderately, Nov. to Mar. *Syringe* once or twice daily whilst making growth. *Ventilate* freely, May to Sept. *Temp.*, Ap. to Oct., 55° to 65°; Oct. to Ap., 45° to 50°. *Growing period*, Feb. to Mar.; *resting period*, Oct. to Feb. *Plants* may be grown in sitting-room or cool conservatory when in flower. *Propagate* by division of pseudo bulbs immediately after flowering.

Xylophylla.—*Ord.* Euphorbiaceæ. Stove evergreen flowering shrubs. *Nat.* Jamaica. *Int.* 1789. *Ht.* 2 ft. *Species* cultivated, 2. *Flowers*, red, white; July to Sept. *Compost*, equal parts sandy loam & fibry peat, one part of equal proportions of charcoal, dried cow manure, powdered brick, & coarse silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or

Mar. Water moderately, Oct. to Mar.; freely afterwards. *Syrings* morning & evening. Ap. to Sept. *Prune* into shape, Jan. Temp., Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. Propagate by cuttings of firm shoots, 2 to 3 in. long, inserted singly in small pots of sandy soil under propagator or bell glass in temp. 75° spring or sum.

Yacca-wood Tree (*Podocarpus coriacea*)—see *Podocarpus*.

Yam (*Dioscorea sativa*)—see *Dioscorea*.

Yam Bean (*Dolichos tuberosus*)—see *Dolichos*.

Yarrow-leaved Starwort (*Aster ptarmicoides*)—see *Aster*.

Year Bean (*Phaseolus vulgaris*)—see *Phaseolus*.

Yellow Adder's Tongue (*Erythronium americanum*)—see *Erythronium*.

Yellow Alpine Auricula (*Primula auricula*)—see *Primula*.

Yellow American Lily (*Lilium canadense*)—see *Lilium*.

Yellow-and-Crimson Chrysanthemum (*Chrysanthemum Burrid-gianum*)—see *Chrysanthemum*.

Yellow Arctic Poppy (*Papaver nudicaule*)—see *Papaver*.

Yellow Arizona Pine-tree (*Pinus arizonica*)—see *Pinus*.

Yellow Arum Lily (*Richardia Pentlandii*)—see *Richardia*.

Yellow Azorean Jasmine (*Jasminum odoratissimum*)—see *Jasminum*.

Yellow-banded Iris (*Iris ochroleuca*)—see *Iris*.

Yellow-barked Oak (*Quercus tinctoria*)—see *Quercus*.

Yellow-berried Buckthorn (*Rhamnus insectoria*)—see *Rhamnus*.

Yellow-berried Holly (*Ilex aquifolium fructu-luteo*)—see *Ilex*.

Yellow-berried Privet (*Ligustrum vulgare xanthocarpum*)—see *Ligustrum*.

Yellow-berried Roman Ivy (*Hedera helix chrysocarpa*)—see *Hedera*.

Yellow-berried Yew-tree (*Taxus baccota fructu-luteo*)—see *Taxus*.

Yellow Cedar (*Thuopsis borealis*)—see *Thuopsis*.

Yellow Chamomile (*Anthemis tinctoria*)—see *Anthemis*.

Yellow Coneflower (*Rudbeckia Newmanni*)—see *Rudbeckia*.

Yellow Cypress (*Thuopsis borealis* & *Thuia Lobbi*)—see *Thuopsis* & *Thuia*.

Yellow Day Lily (*Emerocallis flava*)—see *Emerocallis*.

Yellow Everlasting (*Helichrysum orientale* & *H. arenarium*)—see *Helichrysum*.

Yellow Flag (*Iris pseudo-acorus*)—see *Iris*.

Yellow Flower de Luce (*Iris pseudo-acorus*)—see *Iris*.

Yellow-flowered Asphodel (*Asphodelus luteus*)—see *Asphodelus*.

Yellow-flowered Bitter Vetch (*Orobis aurantius*)—see *Orobis*.

Yellow-flowered Black Currant (*Ribes flavum*)—see *Ribes*.

Yellow-flowered Brisbane Laurel (*Pittosporum revolutum*)—see *Pittosporum*.

Yellow-flowered Buck-eye (*Pavia flava*)—see *Pavia*.

Yellow-flowered Butterwort (*Pinguicula lutea*)—see *Pinguicula*.

Yellow-flowered Centaury (*Chlora perfoliata*)—see *Chlora*.

Yellow-flowered Currant (*Ribes aureum*)—see *Ribes*.

Yellow-flowered Dwarf Saxifrage (*Saxifraga sancta*)—see *Saxifraga*.

Yellow-flowered Fumitory (*Corydalis lutea*)—see *Corydalis*.

Yellow-flowered Garlic (*Allium flavum*)—see *Allium*.

Yellow flowered Gentian (*Gentiana lutea*)—see *Gentiana*.

- Yellow-flowered Horse Chestnut** (*Pavia flava*)—see *Pavia*.
Yellow-flowered Jasmine (*Jasminum fruticans*)—see *Jasminum*.
Yellow-flowered Lobelia (*Lobelia lutea*)—see *Lobelia*.
Yellow-flowered Mountain Avens (*Geum montanum*)—see *Geum*.
Yellow-flowered Purslane (*Portulaca aurea*)—see *Portulaca*.
Yellow-flowered Skull-cap (*Scutellaria orientalis*)—see *Scutellaria*.
Yellow-flowered Whitlow-grass (*Draba aizoides*)—see *Draba*.
Yellow Foxglove (*Digitalis lutea*)—see *Digitalis*.
Yellow-fringed Orchis (*Habenaria ciliaris*)—see *Habenaria*.
Yellow-fruited Egg-plant (*Solanum melongena fructu-lutea*)—see *Solanum*.
Yellow-fruited Thorn (*Crataegus flava*)—see *Crataegus*.
Yellow Garden Hawk-weed (*Tolpis barbata*)—see *Tolpis*.
Yellow Gilliflower (*Cheiranthus cheiri*)—see *Cheiranthus*.
Yellow Grape-Hyacinth (*Muscari luteum*)—see *Muscari*.
Yellow Grass (*Narthecium ossifragum*)—see *Narthecium*.
Yellow Herbaceous Flax (*Linum flavum*)—see *Linum*.
Yellow Honeysuckle (*Lonicera flava*)—see *Lonicera*.
Yellow Iris (*Iris pseudo-acorus*)—see *Iris*.
Yellowish-flowered Wood-sorrel (*Oxalis luteola*)—see *Oxalis*.
Yellowish Iris (*Iris flavescens*)—see *Iris*.
Yellowish-leaved Saxifrage (*Saxifraga tenella*)—see *Saxifraga*.
Yellowish Primrose (*Primula luteola*)—see *Primula*.
Yellowish Snowdrop (*Galanthus lutescens*)—see *Galanthus*.
Yellowish White-fruited Bullace (*Prunus insititia fructu-lutea*)—see *Prunus*.
Yellowish-white Gentian (*Gentiana ochroleuca*)—see *Gentiana*.
Yellow Larkspur (*Tropæolum polyphyllum* & other yellow-flowered species)—see *Tropæolum*.
Yellow Long-spurred Columbine (*Aquilegia leptoceras lutea*)—see *Aquilegia*.
Yellow Loose-strife (*Lysimachia vulgaris*)—see *Lysimachia*.
Yellow Mariposa Lily (*Calochortus luteus*)—see *Calochortus*.
Yellow Monkey Flower (*Mimulus luteus*)—see *Mimulus*.
Yellow Mountain Saxifrage (*Saxifraga aizoides*)—see *Saxifraga*.
Yellow Orchis (*Ophrys lutea*)—see *Ophrys*.
Yellow Ox-eye Daisy (*Bupthalmum saicifolium*)—see *Bupthalmum*.
Yellow Pimpernel (*Lysimachia nemorum*)—see *Lysimachia*.
Yellow Pine-tree (*Pinus australis* & *P. ponderosa*)—see *Pinus*.
Yellow Pond Lily (*Nuphar advena*)—see *Nuphar*.
Yellow Pretty-grass (*Calochortus luteus*)—see *Calochortus*.
Yellow Puccoon (*Hydrastis canadensis*)—see *Hydrastis*.
Yellow Rock Madwort (*Alyssum saxatile*)—see *Alyssum*.
Yellow Rush-leaved Daffodil (*Narcissus gracilis*)—see *Narcissus*.
Yellow Sacred Bean (*Nelumbium luteum*)—see *Nelumbium*.
Yellow Side-saddle-flower (*Sarracenia flava*)—see *Sarracenia*.
Yellow Star-flower (*Sternbergia lutea*)—see *Sternbergia*.
Yellow Sweet Sultan (*Gentaurea suaveolens*)—see *Gentaurea*.
Yellow Thistle (*Argemone mexicana*)—see *Argemone*.
Yellow Toad-flax (*Linaria vulgaris*)—see *Linaria*.
Yellow Variegated Sycamore (*Acer pseudo-platanus variegatum*),—see *Acer*.
Yellow Water Bean (*Nelumbium luteum*)—see *Nelumbium*.

Yellow Water Lily (*Nuphar lutea*)—see *Nuphar*.

Yellow Wood Anemone (*Anemone ranunculoides*)—see *Anemone*.

Yellow-wort (*Chlora perfoliata*)—see *Chlora*.

Yevering Bells (*Pyrola secunda*)—see *Pyrola*.

Yew-tree (*Taxus baccata*)—see *Taxus*.

Yoke Elm (*Carpinus betulus*)—see *Carpinus*.

Yorkshire Sanicle (*Pinguicula vulgaris*)—see *Pinguicula*.

Yourg's Evening Primrose (*Enothera Youngi*)—see *Enothera*.

Youth-and-Old-Age (*Zinnia elegans*)—see *Zinnia*.

Youth-wort (*Drosera rotundifolia*)—see *Drosera*.

Yucca (Adam's Needle, Mound Lily, Spanish Bayonet, Bear's Grass).—*Ord.* Liliaceæ. Greenhouse & hardy evergreen perennials. *Nat.* United States, Mexico, N. America. *Int.* 1625. *Ht.* 1 to 10 ft. *Species* cultivated, 9 hardy; about 12 greenhouse; varieties numerous. *Flowers*, white; sum. **CULTURE OF HARDY SPECIES:** *Soil*, ordinary light well drained. *Position*, sunny banks, mounds, rockeries, raised borders, or singly lawns. *Plant*, Oct. or Ap. *Protect* in severe weather with mats. **CULTURE OF GREENHOUSE SPECIES:** *Compost*, two parts sandy loam, one part leaf-mould & little sand. *Position*, light greenhouse, Sept. to June; sunny position outdoors, pots plunged to rims in soil, June to Sept.; or may be grown entirely in greenhouse. *Pot*, Mar. *Water* freely, Ap. to Sept.; very little afterwards. *Repotting* only necessary when root-bound. *Temp.*, Sept. to Mar., 40° to 50°; Mar. to Sept., 55° to 65°. *Propagate* by division in Mar., offsets or suckers in Mar. or Ap.; cuttings of roots inserted in sand in temp. 55° in spring.

Yulan Magnolia (*Magnolia conspicua*)—see *Magnolia*.

Zakkoum Oil-plant (*Elæagnus hortensis angustifolia*)—see *Elæagnus*.

Zamia (Jamaica Sago Tree).—*Ord.* Cycadaceæ. Stove or greenhouse orn. foliage plants. *Nat.* Tropical America, S Africa, W. Indies. *Int.* 1691. *Ht.* 2 to 6 ft. *Species* cultivated, about 25. *Leaves*, feather-shaped. *Compost*, equal parts loam & peat, little silver sand. *Position*, well drained pots in shady part of stove. *Pot*, Feb. or Mar. *Water* copiously, Mar. to Oct. *Syringe* daily, Ap. to Sept. *Moist* atmosphere essential. *Shade* from sun. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 60° to 70°. *Propagate* by seeds sown in light soil in temp. 75° to 85°, spring; by offsets removed & placed in small pots under bell-glass in propagator in spring; by division, Feb. or Mar.

Zante-wood (*Rhus cotinus*)—see *Rhus*.

Zanthoxylum (Prickly Ash, Toothache Tree).—*Ord.* Rutaceæ. Hardy deciduous & stove evergreen flowering trees. *Nat.* N. America, E. & W. Indies, Japan, Penang. *Int.* 1773. *Ht.* 4 to 50 ft. *Species* cultivated, 4 hardy; about 14 stove. *Flowers*, white; Mar. to Sept. **CULTURE OF HARDY SPECIES** (*Z. fraxinifolium*, etc.): *Soil*, ordinary. *Position*, sunny sheltered borders. *Plant*, Oct. to Mar. **CULTURE OF STOVE SPECIES:** *Compost*, two parts sandy loam, one part leaf-mould, little sand. *Position*, well drained pots in stove. *Pot*, Feb. or Mar. *Prune* into shape, Feb. *Water* freely, Ap. to Sept.; moderately afterwards. *Syringe* daily in sum. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 55° to 65°. *Propagate* stove species by cuttings inserted in sand under bell-glass in Ap. or May in temp. 70° to 80°. Hardy species by cuttings of roots or firm shoots inserted in sandy soil under handlight outdoors, Sept. or Oct.

Zanzibar Aloe (*Aloe socotrina*)—see *Aloe*.

Zanzibar Balsam (*Impatiens Sultanii*)—see *Impatiens*.

Zanzibar Water Lily (*Nymphaea stellata zanzibariensis*)—see *Nymphaea*.

Zauschneria (Californian Fuchsia).—*Ord.* Onagraceæ. Half-hardy shrubby perennial. *Nat.* California, Mexico. *Int.* 1847. *Ht.* 9 to 12 in. *Species* cultivated, 1; variety 1. *Flowers*, red; June to Oct. *Soil*, sandy loam.

Position, sunny well drained rockery or old wall. **Plant**, Mar. or Ap. **Propagate** by seeds sown in light sandy soil, lightly covering with fine mould, place in temp. 55° to 65°, Mar., transplanting seedlings outdoors end of May or beginning of June; by cuttings of young side shoots inserted in pots of sandy soil under bell-glass or hand-light in shady position outdoors in Sept., protecting cuttings in heated greenhouse until following Ap., then planting out; by division of old plants in Ap.

Zea (Maize, Indian Corn).—*Ord.* Graminaceæ. Half-hardy annual. Orn. foliage. *Nat. America. Int.* 1562. *Ht.* 2 to 3 ft. *Species* cultivated, 1; varieties several. *Leaves*, narrow, grass-like; green or variegated with white. *Soil*, ordinary. *Sow* seeds $\frac{1}{2}$ in. deep & 1 in. apart in light rich soil in well drained pots or boxes in temp. 55° to 65°, Feb. or Mar.; transfer seedlings when 2 in. high singly into 2-in. pots, then into 4 $\frac{1}{2}$ -in. pots. *Place* in cold frame to harden in May & plant outdoors in June. *May* also be grown in pots in compost of equal parts good loamy soil & leaf-mould, & little sand. *Water* freely.

Zebra Plant (*Maranta zebrina*)—see *Maranta*.

Zebra-striped Dragon-plant (*Dracæna Goldiana*)—see *Dracæna*.

Zebra-striped Rush (*Eulalia japonica zebrina*)—see *Eulalia*.

Zebrina.—*Ord.* Commelinaceæ. Greenhouse herbaceous trailing perennial. Orn. foliage. *Nat. Mexico. Int.* 1849. *Species* cultivated, 1. *Flowers*, purple; sum. *Leaves*, oval oblong; dark green, striped white above, purplish beneath. *Stems* creeping. *Compost*, equal parts loam, leaf-mould, & sand. *Position*, in pots or baskets suspended from roof, or in beds under stage or on rockeries. *Pot* or plant, Jan. to Ap. *Water* freely, Mar. to Oct.; moderately afterwards. *Shade* from strong sunshine. *Temp.*, 40° to 50°, Oct. to Ap.; 55° to 65°, Ap. to Oct. *May* also be grown in windows as a pot or basket plant. *Protect* from frost in winter. *Propagate* by cuttings of young shoots inserted in light soil under a bell-glass in above temp., Mar. to Oct.

Zenobia.—*Ord.* Ericaceæ. Hardy evergreen flowering shrub. *Nat. N. America. Int.* 1800. *Ht.* 18 in. to 2 ft. *Flowers*, white; sum. *Soil*, peat or sandy loam. *Position*, moist sheltered borders. *Plant*, Sept., Oct., Mar. or Ap. *Propagate* by layering in Sept. or Oct.

Zephyranthes (Zephyr Flower, Atamasco Lily, Peruvian Swamp Lily, Flower of the West Wind).—*Ord.* Amaryllidaceæ. Hardy deciduous bulbous flowering plants. *Nat. Mexico, Buenos Ayres, Peru, Virginia, Brazil, Jamaica. Int.* 1629. *Ht.* 6 to 12 in. *Species* cultivated, about 25. *Flowers*, white, red, yellow, rose, pink; Dec. to June. **OUTDOOR CULTURE:** *Soil*, light sandy loam. *Position*, well drained sunny beds, borders, or rockeries. *Plant*, Aug. to Nov., placing bulbs 3 to 4 in. deep & 4 in. apart. *Protect* in winter by a layer of cinder ashes. *Lift* & replant only when bulbs show signs of deterioration. **POT CULTURE:** *Compost*, two parts loam, one part peat, leaf-mould & silver sand. *Position*, well drained pots in cold frame or greenhouse. *Pot*, Aug. to Nov., placing one bulb 2 in. deep in a 5 or 6-in. pot. *Water* very little till growth begins, then freely. *Withhold* water when flowers fade & keep soil quite dry till potting time. *Propagate* by offsets planted & treated as advised for large bulbs, Aug. to Nov.

Zephyr-flower (*Zephyranthes candida*)—see *Zephyranthes*.

Zeyher's Mock Orange (*Philadelphus Zeyheri*)—see *Philadelphus*.

Zig-zag Cliff-brake Fern (*Pellæa flexuosa*)—see *Pellæa*.

Zingiber (Ginger).—*Ord.* Scitaminaceæ. Stove perennial. *Roots* furnishing the ginger of commerce. *Nat. East Indies. Int.* 1605. *Ht.* 2 ft. *Species* cultivated, 1. *Flowers*, red; July. *Compost*, equal parts loam, peat, & sand. *Position*, pots in shady moist part of stove. *Pot*, Feb. *Water* copiously, Mar. to Oct.; keep nearly dry, Oct. to Mar. *Temp.*, Mar. to Oct., 75° to 85°; Oct. to Mar., 55° to 65°. *Stems* die down in autn. *Propagate* by division of the rhizomes in Feb.

Zinnia (Youth-and-old-age).—*Ord.* Compositæ. Half-hardy annuals. *Nat.* Mexico. *Int.* 1770. *Ht.* 1 to 2 ft. *Species* cultivated, 6; varieties numerous. *Flowers*, crimson, rose, white, orange, yellow, purple; *sum.* *Soil*, deep loamy, liberally enriched with decayed manure. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{2}$ in. deep in light soil in temp. 55° early in Ap. *Trans-plant* seedlings when third leaf forms 2 in. apart in shallow boxes filled with light mould. *Place* box near the glass in temp. 55° until seedlings are established, then remove to a cooler house, and if possible plant out 4 in. apart in good rich soil in cold frame early in May. *Shade* from sun., keep moist & gradually expose to air end of month. *Plant* out 8 to 12 in. apart second week in June. *Sow* also outdoors middle of May. *Prepare* bed of rich soil in sunny position, sow three or four seeds at intervals of 12 in., & thin seedlings to one at each place when third leaf forms. *Mulch* all zinnias with decayed manure after planting. *Water* liberally in dry weather. *Apply* stimulants when the plants commence to flower. *On dry soils* take out mould to depth of 12 in., put 3 in. of decayed manure in, then replace former.

Zoy's Bell-flower (*Campanula Zoysi*)—see *Campanula*.

Zygopetalum.—*Ord.* Orchidacæ. Stove epiphytal orchids. *Nat.* Ecuador, Brazil, Guiana, Columbia, Central America, New Grenada, West Indies. *Int.* 1825. *Ht.* 6 to 18 in. *Species* cultivated, 7; varieties several. *Flowers*, white, blue, purple, brown, yellow, green, chocolate, crimson; *autn.* & *winter.* *Compost*, equal parts rough fibrous peat & sphagnum moss & charcoal. *Position*, well drained pots or on blocks of wood (roots being covered with sphagnum moss), or in baskets suspended from roof. *Paf*, etc., Feb. or Mar. *Water* freely, Ap. to Sept.; moderately, Sept. to Dec. Give very little, Dec. to Ap. *Shade* from sun in *sum.* *Moist* atmosphere essential. *Temp.*, Mar. to June, 58° to 65°; Dec. to Mar., 53° to 60°. *Propagate* by division, any time.

ADDENDA.

Actinotus (Flannel Flower).—*Ord.* Umbelliferae. *Nat.* Australia *Int.*, 1821. *Species* cultivated, 1 (*A. helianthi*). *Ht.*, 2 ft. *Flowers*, white. *June*. **INDOOR CULTURE**: *Compost*, equal parts loam & peat, with a liberal addition of silver sand. *Position*, sunny part of cool greenhouse. *Pot*, Mar. or Ap. *Water* freely Mar. to Oct.; moderately afterwards. *Temp.*, Mar. to Sept. 55° to 65°; Sept. to Mar., 45° to 55°. **OUTDOOR CULTURE**: *Soil*, ordinary. *Position*, sunny. *Sow* seeds in temp. of 65° in Mar. or Ap. *Harden* off seedlings gradually, and plant out at the end of May. *Propagate* by seeds sown in a temp. of 65° in spring; or by division at the roots at potting time.

Adenantha (Barbadoes Pride).—*Ord.* Leguminosae. *Stove* evergreen flowering shrubs. *Nat.* India. *Int.* 1759. *Species* cultivated, 1. *Ht.* 5 ft. *Flowers*, white & yellow; spring. *Compost*, equal parts peat & loam, with a little silver sand. *Position*, well drained pots in light part of stove. *Pot*, Mar. *Water* freely in spring & sum., & moderately in autumn & winter. *Temp.* Mar. to Oct. 65° to 85°; Oct. to Mar. 55° to 65°. *Propagate* by cuttings of side shoots removed with a base of old wood & inserted in sand under bell glass in spring.

Aeranthus.—*Ord.* Orchidaceae. *Stove* evergreen plants. *Nat.* Madagascar, Comoro Islands. *Int.* 1823. *Ht.* 3 to 12 in. *Species* cultivated 4. *Flowers*, white, yellow & green; sum. *Compost*, equal parts peat potsherds, charcoal & sphagnum moss. *Position*, suspended pots or teak-wood baskets. *Repot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.* Sept. to Mar. 60° to 55°; Mar. to Sept. 70° to 80°. *Propagate* by division of plants in Mar.

Albuca.—*Ord.* Liliaceae. *Half hardy* bulbous plants. *Nat.* S. Africa. *First introduced* 1774. *Species* cultivated, 29. *Flowers*, white, yellow, green; sum. *Ht.* 6 in. to 2 ft. *Compost*, two parts loam, one part of equal proportions of peat, leaf-mould & silver sand. *Position*, cool greenhouse. *Pot* in Nov., placing five bulbs 3 in. deep in a 4½ in. pot. Cover pot with coconut-fibre refuse until growth begins, then expose to light. *Water* freely from time bulbs begin to grow until flowers fade, after which keep dry till Nov. *Propagate* by offsets or seeds.

Alligator Pear (*Persea gratissima*)—see *Persea*

Althæa. (Hollyhock).—*Ord.* Malvaceae. *Hardy* perennial. *Nat.* China. *Int.* 1573. *Ht.* 8 to 10 ft. *Species* cultivated, 1; varieties numerous. *Flowers*, various; sum. *Soil*, rich loam, or good ordinary mould, not too light. Trench the soil three spits deep in Oct., & work in plenty of decayed manure between second & third spits. *Plant* singly 3 ft. apart each way or in groups of three, 12 in. from plant to plant, 4 ft. apart, in Ap. *Mulch* surface of soil to width of 18 in. from stem to stem. *Support* the stems with stakes standing 6 ft. out of ground. *Water* copiously in dry weather. *Apply* liquid manure once a week from May until blooms expand. *Remove* flowers directly they fade. *Cut* off tops of spikes where fine blooms are required for exhibition as soon as lower blooms show signs of expanding. *Offshoots* should be removed from base of plants in June if fine spikes are desired. *Young plants* yield finest blooms for exhibition. *Cut* flower stems down to within 6 in. of soil after flowering. *Manures* (1) Beeson's manure applied at rate of a handful to each plant in May, June, July, & Aug. (2) ½ oz. nitrate of soda, ½ oz. each of superphosphate, kainit & sulphate of ammonia to two gallons of water, applied to the roots at intervals of a month from May to Sept. (Griffiths) (3) Liquid drainings or solutions of animal manures, applied in a diluted state occasionally during sum. *Propagate* by

seeds sown in drills 1 in. deep & 12 in. apart on a south border in June. Thin seedlings to 6 in. apart in July. Lift in Sept., and place in pots in a compost of two parts loam & one part peat & leaf-mould; put in cold frame for the winter, or plant in similar soil in frame. On warm soils seedlings may be transplanted direct into flowering positions in Sept. Sow seeds also in good soil in temp. 55° to 65° in Jan. or Feb., grow in pots, harden off in Ap., and plant out in May. Increased also by cuttings of young shoots growing out of base of flower stems inserted singly in small pots plunged in a gentle hotbed in spring. Likewise by cuttings of young shoots consisting of two joints with lower leaves removed, inserted in small pots placed in a close frame in Aug. Lastly, by the division of the old plants after flowering.

Amasonia.—*Ord.* Verbonacæ. Stove evergreen flowering plant. *Nat.* British Guiana and Brazil. *Ht.* 2 ft. *Species* cultivated, 2. *Inflorescence*, red bracts, red calyx, and yellow corolla; autumn. *Compost*, equal parts loam and leaf-mould, little silver sand. *Pot*, March. *Position*, in small pots near glass, well exposed to light; shade in summer. *Water* freely in spring and summer; moderately other times. *Temp.*, March to September, 75° to 85° ; September to March, 58° to 65° . *Propagate* by division of the plants in March.

Amorpha (Bastard Indigo).—*Ord.* Leguminosæ. Hardy deciduous shrubs. *Nat.* N. America. *Ht.* 2 to 9 ft. *Species* cultivated, 6. *Flowers*, blue and purple. *sum.* *Soil*, ordinary. *Position*, in the mixed shrubbery. *Plant*, October to February. *Prune* after flowering, thinning shoots that have borne blossoms. *Propagate* by cuttings in autumn; layering in summer; suckers in winter.

Amorphophallus.—*Ord.* Aroidæ. Stove tuberous-rooted perennials. *Nat.* Southern Asia and the Indian Archipelago. *Flowers* with purple or white spathes and brown spadices; tetrad; appearing before leaves. *Leaves* more or less ornamental. *Ht.* 1 to 5 ft. *Compost*, equal parts turfy loam, peat, leaf-mould, decayed manure & silver sand. *Position*, well drained pots in shade. *Pot* moderately firm in pots just large enough to take tubers in Feb. to Mar., transfer to larger pots in Ap. or May. *Water* moderately Feb. to Ap. & Sept. to Nov.; freely Ap. to Sept.; keep quite dry Nov. to Feb. *Temp.*, Feb. to Sept. 70° to 80° ; Sept. to Nov. 65° to 75° ; Nov. to Feb. 55° to 65° . *Propagate* by dividing the tubers in Feb. or Mar.

Anacampseros.—*Ord.* Portulacææ. Greenhouse succulent-leaved plants. *Nat.* S. Africa. *Ht.* 9 to 18 in. *Species* cultivated, 7. *Flowers*, pink; *sum.* *Compost*, two parts sandy loam, one part of equal proportions of old mortar, small brick rubble and sand. *Position*, in not too large pots on shelves near the glass; no shade. *Water* moderately in spring and summer; keep nearly dry in autumn and winter. Dry atmosphere needed. *Repot* in March. *Temp.*, 45° to 50° in winter; 50° to 60° in summer. *Propagate* by seeds sown in a mixture of fine rubble and sandy loam, in heat, in spring; by cuttings, exposed to the air for a few days after removal from the plant, then inserted in fine sand in a gentle heat.

Andropogon (Lemon Grass).—*Ord.* Gramineæ. Stove and hardy ornamental flowering grasses. *Nat.* India & America. First introduced 1786. *Ht.* 2 ft. to 6 ft. *Species* cultivated, 1 stove, 4 hardy. *Foliage* of *A. Schenanthus* (Lemon Grass) fragrant. **CULTURE OF STOVE SPECIES** (*A. Schenanthus*): *Compost*, two parts loam, one part leaf-mould & sand. *Position*, pots in stove. *Pot*, Mar. *Water* freely Mar. to Oct.; moderately afterwards. *Temp.* Mar. to Oct. 75° to 85° ; Oct. to Mar., 55° to 65° . **CULTURE OF HARDY SPECIES** (*A. halpensis*, *A. squarrosa*, & *A. striatus*): *Soil*, ordinary, light and dry. *Position*, sunny border. *Plant*, Oct., Mar., and Ap. Apply liquid manure occasionally in sun. *Propagate* by division.

Angelonia.—*Ord.* Scrophulariaceæ. Stove herbaceous perennials. *Nat.* Brazil, Mexico, and Pernambuco. *Int.* 1818. *Species* cultivated, 7. *Ht.*, 1 to 2 ft. *Flowers*, violet, purple, and blue; May to Aug. *Compost*, equal parts of loam, peat, leaf-mould, and a little sand. *Position*, pots in sunny parts of stove. *Pot* Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.* Mar. to Oct, 65° to 75°; afterwards 55° to 60°. *Propagate* by division of roots in Mar.; cuttings of young shoots inserted in sand under bell glass, in temp. 75° in Ap.

Anigozanthus.—*Ord.* Hamodoraceæ. Greenhouse herbaceous perennials. *Nat.* Australia. *Ht.* 2 to 3 ft. *Species* cultivated, 8. *Flowers*, crimson, scarlet, green, yellow and purple; woolly in texture; spring. *Compost*, one part loam, two parts peat, and one part silver sand. *Pot* in Mar. *Position*, pots in cool greenhouse fully exposed to light. *Water* freely in spring and summer; moderately in autumn and winter. *Temp.*, 40° to 50° in winter; no heat at other times. *Propagate* by division of the roots in spring.

Anona (Custard Apple or Sweet Sop).—*Ord.* Anonaceæ. Stove ever-green shrubs. *Nat.* Brazil, East & West Indies, Guiana, Mexico & Peru. *Int.* 1690. *Species* cultivated, 18. *Ht.* 4 to 20 ft. *Flowers*, yellow, white, green, brown, and red; sum. *Leaves* fragrant. *Fruit* of *A. muricata*, *A. reticulata* & *A. squamosa* edible. *Compost*, two parts loam, one part peat & a little silver sand. *Pot*, Mar. or Ap. *Position*, light & sunny. *Water* freely Mar. to Oct., moderately afterwards. *Syringe* daily Ap. to Sept. *Shade* from bright sunshine. *Temp.*, Mar. to Oct. 65° to 85°; Oct. to Mar. 55° to 65°. *Propagate* by seeds in spring, or by cuttings of firm shoots in moist sand under bell glass in temp. 75° in sum.

Apera (Pheasant's Tail Grass).—*Ord.* Gramineæ. *Nat.* New Zealand. *Int.*, 1882. *Species* cultivated, 1 (*A. arundinacea*). *Ht.*, 2 to 3 ft. Inflorescence borne in graceful panicles. Stem slender and drooping. *Compost*, two parts sandy loam, one part leaf-mould & sand. *Position*, well-drained pots in hanging baskets in sunny greenhouse. *Pot* or plant in spring. *Water* freely during spring and summer; moderately autumn and winter. Pretty plant for front row of staging in greenhouse. *Propagate* by seed sown in a temp. of 55° to 65° in spring; or by division of the roots or tufts at potting time.

Aphanostephus.—*Ord.* Compositæ. Half-hardy annual. *Nat.* Arkansas. *Int.*, 1838. *Species* cultivated, 1 (*A. Arkansanum*). *Ht.*, 1 to 2 ft. *Flowers*, white, gold, & rose; summer. *Soil*, light, ordinary. *Position*, sunny, well-drained borders. Sow seeds in a temp. of 55° to 65° in Mar. Transplant seedlings 1 or 2 in. apart in boxes. Gradually harden off, and plant outdoors the end of May.

Aplopappus—*Ord.* Compositæ. Hardy perennials. *Nat.* Rocky Mountains. *Ht.* 18 ins. *Species* cultivated, 1. *Flowers*, yellow; Aug. *Soil*, ordinary sandy. *Position*, sunny border. *Plant*, Mar. or Ap. *Protect* in severe winter. *Propagate* by seeds sown in a temp. of 65° in spring, hardening seedlings off in cold frame; also by division in Mar. or Ap.

Arachis (Monkey Nut, Earth Nut, & Ground Nut).—*Ord.* Leguminosæ. Stove annual. *Ht.* 1 ft. *Species* cultivated, 1 (*A. hypogæa*). *Flowers*, yellow; May. After flowering the seed pod is gradually forced into the soil to ripen its seeds, which are edible. *Compost*, loam, leaf-mould & sand. Sow seeds in a temp. of 75° to 85° in spring; plant seedlings in small pots and grow in a light position. *Water* moderately. *Temp.* 75° to 85°

Arauja.—*Ord.* Asclepiadaceæ. Stove flowering evergreen climbers. *Nat.* Brazil. First introduced 1837. *Species* cultivated, 2 (*A. grandiflora* & *A. graveolens*). *Ht.* 10 ft. to 15 ft. *Flowers*, white, yellow; *sum.* *Compost*, equal parts peat, loam, & sand. *Position*, pots or beds; shoots trained up roof or round wire trellis. *Pot*, Feb. or Mar. *Water* freely Mar. to Sept.; moderately afterwards. *Syringe* twice daily Mar. to Aug. *Prune* shoots moderately annually in Jan. *Apply* liquid manure occasionally during May, June, & July. *Temp.* Mar. to Oct., 65° to 75°; Oct. to Mar., 55° to 65°. *Propagate* by cuttings of young shoots 4 in. long, inserted in sandy soil under propagating glass in temp. 75° to 80° in spring.

Arctotis.—*Ord.* Compositæ. Half-hardy herbaceous perennials, adapted for cool greenhouse and outdoor culture. *Ht.* 4 in. to 18 in. *Species* cultivated, 4. *Flowers*, red, orange & yellow; *sum.* **OUTDOOR CULTURE:** *Soil*, loamy, enriched with leaf-mould. *Position*, preferably sunny, but will do in shade. *Plant* in April or May. *Protect* by handlights or frames in winter. Best raised from seed or cuttings annually, and grown outside in summer only. **INDOOR CULTURE:** *Compost*, equal parts of loam & leaf-mould with a little sand. *Position*, well drained pots in sunny part of greenhouse. *Water*, liberally from Mar. to Oct., moderately at other seasons. *Propagate* by seeds sown in a temp. of 55° to 65° in Mar. Avoid a too damp atmosphere. Also by cuttings of side shoots inserted in pots of sandy soil in a cold frame in early summer.

Arisæma (Dragon Root, Green Dragon).—*Ord.* Arceidæ. Half hardy and hardy tuberous-rooted perennials. *Nat.* India, N. America Japan. First introduced, 1759. *Ht.* 6 in. to 2 ft. *Flowers*, green, white, and purple, arum like in shape; *spring* and *sum.* **CULTURE OF HARDY SPECIES** (*A. dracontium* and *A. triphyllum*): *Soil*, ordinary. *Position*, sunny borders. *Plant*, Oct. or Mar. *Top-dress* with decayed manure after new growth begins. *Apply* liquid manure occasionally in *sum.* **CULTURE OF GREENHOUSE SPECIES** (*A. ringens*, *A. scrotino*): *Compost*, equal parts peat, leaf-mould, loam, and sand. *Position*, cool greenhouse. *Pot*, Mar. *Water*, freely. Mar. to Oct.; keep dry afterwards. *Winter temp.*, 40° to 50°. *Propagate* by division of tubers.

Arthropodium.—*Ord.* Liliacæ. Greenhouse herbaceous perennials. *Nat.* New Zealand & Australia. First int., 1800. *Ht.*, 1½ to 3 ft. *Species* cultivated, 5. *Flowers*, white; *summer.* *Compost*, two parts sandy loam, one part peat, & a liberal quantity of silver sand. *Position*, well-drained pots in sunny part of greenhouse. *Pot*, Mar. or Ap. *Water* freely spring & summer; moderately autumn and winter. *Temp.*, Oct. to Mar., 40° to 45°; Mar. to Oct., 55° to 65°. *Propagate* by seeds sown in a mixture of equal parts sandy loam, peat, leaf mould, & sand, in a temp. of 55° to 65° in spring; also by off-sets or suckers removed in spring.

Asparagus (*Asparagus officinalis*).—*Ord.* Liliacæ. Hardy deciduous perennial. *Nat.* Maritime sands of S. & W. England, Ireland, Central & Western Asia, Mediterranean shores & western coasts of Europe. First cultivated in England in sixteenth century. *Ht.* 4 to 5 ft. *Species* cultivated, 1; varieties—Conover's Colossal, Giant Argenteuil, and Palmetto. *Flowers*, greenish white; *Aug.* *Berries*, red; *Sept.* & *Oct.* **OUTDOOR CULTURE:** *Soil*, deep rich sandy loam. *Position*, open and sunny; preferably; will succeed, however, in partial shade. *Size of beds*, 3 ft. wide, 12 in. high; alleys 2 ft. wide. *Preparation of soil:* In Oct. or Nov., trench two spits deep & break up third spit with fork. Put a thick layer of manure over third spit and work in a liberal quantity of old mortar, decayed vegetable matter, &

rotten manure among upper spits. In Mar., double dig the soil again and add layer of decayed manure between first and second spits. In case of heavy wet soils put a thick layer of brick rubble under second spit in Oct. *Plant in Ap.* Mark out two rows on each bed, each row being 9 in. from alley, *Open a trench 12 in. deep on each side of row thus A*, and spread out roots on each side; plants to be 15 in. apart. Fill up trenches with soil & make level. "Crowns" or points of each plant to be 5 in. below surface. *Mulch with decayed manure.* Three-year old plants best for planting. *Cutting:* No shoots to be removed first year, moderate quantity the second year, freely afterwards. *Shoots* should not be less than 6 in. long when cut. *Cease cutting* end of June. *General treatment:* Apply manures as advised below. *Keep beds free of weeds.* *Cut down stems* early in Nov. *Top-dress* with decayed manure in Nov., previously lightly forking up surface, & cover with sprinkling of soil. In Mar., lightly fork over surface, rake off rough particles into alley & leave smooth and neat. *Solid manures:* (a) Decayed horse manure for heavy soils; cow or pig manures for light soils; (b) seaweed mixed with above manures & applied as a top-dressing in Nov.; (c) Common salt, 1 oz. to a square yard, applied once a month, May to Sept.; (d) Besson's manure 1 lb. to a square yard, applied in Ap.; (e) Native guano, $\frac{1}{2}$ lb. to a square yard, applied in Ap.; (f) Peruvian guano 1 oz. to a square yard, applied once a month, Ap. to Sept.; (g) 3 lbs. common salt, $\frac{1}{2}$ lbs. superphosphate, $\frac{1}{2}$ lbs. nitrate of soda, 1 lb. kainit, mixed together, and applied at rate of 2 oz. per square yard in Ap. & 2 oz. in July. *Liquid Manures:* (h) 2 oz. potash, 2 oz. superphosphate & 1 oz. sulphate of ammonia to each gallon of water applied in June; (i) Common salt, 2 oz. to each gallon of water applied in May and July; (j) nitrate of soda, $\frac{1}{2}$ oz. to each gallon of water applied in May, July, & Aug.; (k) Draining from manure heap applied frequently in Ap. to Sept. **FORCING IN BOXES:** Place strong shoots not less than three-years old in deep boxes containing a few inches of mould. Cover crowns with four inches of mould. Place boxes in temp. of 65° to 75° any time between Nov. and Mar. Cover closely & keep moist. When shoots show, moisten with tepid water containing 2 oz. of salt to each gallon. **FORCING IN FRAMES:** Prepare hotbed of manure in usual way. Cover with 3 in. of light soil. Place roots on this and cover to depth of 5 in. Keep soil moist & frame closed until shoots appear, when admit a little air. Temp. 60° to 75°. Roots of no use after forcing. Propagate by seeds sown in groups of three or four in holes 1 in. deep & 15 in. apart in rows formed as advised for planting; or in drills 1 in. deep & 12 in. apart in ordinary soil—both in Mar. or Ap. Thin seedlings raised by the first method to one in each group in May; those by the second method to a foot apart when 3 in. high. Transplant latter into permanent beds when two or three years old.

Astrantia (Master Wort).—*Ord.* Umbelliferae. Hardy herbaceous perennials. *Nat.* European Alps, Caucasus, Sicily. Introduced 1596. *Ht.* 6 in. to 24 in. *Species* cultivated, 7. *Flowers*, pink, white; sum. *Soil*, ordinary. *Position*, shady borders or margins of woodland walks. *Plant*, Oct. or Mar. *Propagate* by seeds sown in sandy loam in cold frame in Ap.; division of roots in Oct. or Mar.

Avocado Pear (*Persea gratissima*)—see *Persea*.

Besometra.—*Ord.* Liliaceae. Greenhouse bulbous perennial. *Nat.* S. Africa. *Int.*, 1787. *Ht.*, 6 to 12 in. *Species* cultivated, 1 (*B. columellaris*). *Flowers*, yellow spotted black; June. *Compost*, equal parts sandy loam & peat, with a liberal addition of silver sand. *Position*, cool greenhouse during winter & spring; cold, sunny frame in summer. *Pot*, Aug. to Nov. *Water* freely during growing period. Gradually withhold water when leaves turn yellow, & keep dry when at rest. *Propagate* by seeds sown in a compost of sandy loam & peat, in cold greenhouse in early spring; or by off-sets at potting time.

Barnardia.—*Ord.* Liliaceæ. Hardy bulbous perennial. *Nat. China. Int.*, 1826. *Species* cultivated, 1 (*B. Scilloides*). *Ht.*, 6 in. *Flowers*, rose; autumn. *Soil*, equal parts peat & loam. *Position*, warm sunny rockery or border. *Plant*, Sept. or Oct. *Depth to plant*, 3 to 4 in. Leave bulbs undisturbed in ground. *Mulch* in well-decayed manure in summer. *Water* occasionally in very dry weather. *Propagate* by offsets removed in the autumn, & replant at same time.

Bayonet Cactus (*Agave*)—see *Agave*, p. 7.

Bay Tree (*Laurus Nobilis*)—see *Laurus*, p. 199.

Beaufort Myrtle (*Beaufortia decussata*)—see *Beaufortia*, p. 26.

Begonia.—Tuberous-rooted kinds may be propagated by division of tubers in spring. Plant the tubers half their depth in equal parts leaf-mould, peat, loam & sand in shallow box, and place in temp. 50° to 60° in spring. When shoots form, divide each tuber into two or three portions with shoots attached, and place in separate pots. *Begonia socotrana* may be increased by removing bulbils at base of stems, and planting in similar compost to above, in temp. 55° to 65° whenever procurable. For other cultural details—see *Begonia*, p. 27.

Bessera (*Coral Drops*).—*Ord.* Liliaceæ. Half-hardy bulbous plant. *Nat. Mexico. Int.*, 1850. *Ht.*, 2 ft. *Flowers*, scarlet & white; summer. *Compost*, equal parts loam, leaf-mould, peat, & coarse silver sand. *Position*, well-drained pots in cold greenhouse. *Pot*, Oct. or Nov. *Water* freely during active growth. Keep more or less dry after foliage dies down until new growth begins. Requires plenty of sun. May be grown in well-drained border outdoors at foot of a south wall. *Propagate* by offsets removed and treated as old bulbs at potting time.

Bigelovia.—*Ord.* Composite. Hardy, shrubby, & herbaceous perennials. *Nat. Porto Rico, etc. Ht.*, 1 to 3 ft. *Species* cultivated, 1; perennial, 3 shrubs. *Flowers*, yellow; autumn. *Soil*, ordinary. *Position*, sunny border for perennial species; shrubberies or rockeries for shrubby species. *Plant* perennial species in March or April; others in autumn. *Propagate* shrubby species by cuttings in cold frame in summer; perennial species by division in March.

Blazing Star (*Liatris squarrosa*)—see *Liatris*, p. 204.

Bloomeria.—*Ord.* Liliaceæ. Half-hardy bulbous plant. *Nat. California. Int.*, 1869. *Species* cultivated, 2. *Ht.*, 12 in. *Flowers*, golden yellow. *Soil*, light, sandy. *Position*, warm border or rockery. *Plant* bulbs 2 to 3 in. deep, & 3 in. apart, Sept. to Nov. *Propagate* by offsets planted as directed for bulbs.

Blue Catananche (*Catananche cœrulea*)—see *Catananche*, p. 54.

Blue Cupidone (*Catananche cœrulea*)—see *Catananche*, p. 54.

Blue Succory (*Catananche cœrulea*)—see *Catananche*, p. 54.

Boston Fern (*Nephrolepis exaltata*)—see *Nephrolepis*.

Bottle Brush Flower (*Callistemon speciosa*)—see *Callistemon*.

Brachypodium Distachyum.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.*, 9 in. *Inflorescence*, suitable for drying for winter decorations. *Soil*, ordinary. *Position*, sunny borders. Sow seeds outdoors in Ap. Cut inflorescence when in full flower.

Bridgesia Spicata—see *Ercilla spicata*, p. 437.

Bromelia.—*Ord.* Bromeliaceæ. Stove herbaceous perennials. *Nat.* Brazil & S. America. *Ht.* 1 to 2 ft. *Species* cultivated, 7. *Flowers*, yellow, purple, blue, & scarlet; *sum.* *Leaves*, spiny. *Culture*, same as for *Bilbergia*, which see.

Brugmansia Suaveolens—see *Datura*, shrubby species, p. 98.

Bryophyllum.—*Ord.* Crasulaceæ. Greenhouse succulent-leaved plants. *Nat.* India. *Ht.* 2 to 10 ft. *Species* cultivated, 2. *Flowers*, green & purple; *sum.* *Compost*, two parts sandy loam, one part old mortar, rubble and sand. *Position*, well drained pits in sunny, fairly dry greenhouse. *Pot* in March. *Water* moderately in summer; keep rather dry at other seasons. *Temp.*, 45° to 55° in winter; 55° to 65° afterwards. *Propagats* by leaves simply laid on the surface of moist sand.

Buddleia.—In addition to methods of propagation recommended on p. 41, this shrub may also be increased by planting portions of roots in sandy soil in cold frame in autumn.

Buffalo Grass (*Stenotaphrum glabrum variegatum*)—see *Stenotaphrum*.

Bugle Vine (*Eccremocarpus scaber*)—see *Eccremocarpus*, p. 116.

Buphane.—*Ord.* Amaryllidaceæ. Half-hardy or greenhouse bulbous-rooted plants. *Nat.* Cape Colony. *Int.* 1795. *Ht.* 6 to 18 in. *Species* cultivated, 2. *Flowers*, purple; *sum.* *Compost*, equal parts peat, 1. am & sand. *Pot*, Sept. *Water* only when new growth begins, then give moderate quantity; cease to give any after leaves turn yellow. *Temp.* Sept. to Nov. 50° to 55° Nov. to Mar. 55° to 65°; Mar. to Sept. 65° to 75° Plants must have full exposure to sun. *Propagate* by offsets inserted in small pots & grown similar to large bulbs.

Cæsalpinia.—*Ord.* Leguminosæ. Hardy deciduous shrubs. *Nat.* Japan. *Ht.* 6 to 8 ft. *Species* cultivated, 1 (*C. japonica*). *Flowers*, yellow; *sum.* *Soil*, ordinary *Position*, warm, sheltered shrubberies. *Plant*, Oct. to Feb. *Prune* merely to keep in good shape. *Propagate* by seeds sown in sandy soil in cold frame at any time.

Calliopsis.—*Ord.* Compositæ. Hardy Annuals. *Nat.* N. America. *Flowers*, yellow & scarlet; *sum.* *Ht.* 1 to 2 ft. *Soil* ordinary. *Position*, sunny beds or borders. *Sow* seeds $\frac{1}{4}$ in. deep in patches in Ap. or May to flower in *sum.*; in Sept. to flower in spring. *Thin* seedlings to 4 in. apart when 2 in. high. Strictly, all the species & varieties of this genus belong to the genus *Coreopsis*, described on p. 79.

Callistemon (Bottle Brush Tree).—*Ord.* Myrtaceæ. (Greenhouse evergreen flowering shrubs. *Nat.* Australia. *Int.* 1788. *Ht.* 4 to 10 ft. *Species* cultivated, 3. *Flowers*, scarlet & yellow; Mar. to Aug. *Compost*, equal parts peat, loam & silver sand. *Position*, in pots, or in well-drained beds at base of wall. *Pot* or plant Mar. or Ap. *Prune* shoots slightly after flowering. *Water* freely Ap. to Sept., moderately afterwards. *Temp.* Mar. to Sept. 55° to 65°; Sept. to Mar. 40° to 50° *Propagate* by cuttings of firm shoots, 3 in. long, inserted in sandy peat under bell glass, in temp. 55° to 65° during *sum.*

Canada Tea (*Gaultheria procumbens*)—see *Gaultheria*, p. 141.

Candle Plant (*Cacalia articulata*)—see *Cacalia*, p. 41.

Cape Silver Tree (*Leucadendron argenteum*)—see *Leucadendron*.

Cardiospermum (Balloon Vine).—*Ord.* Sapindaceæ. Half-hardy annual climber. *Nat.* India. *Int.* 1694. *Ht.* 7 ft. *Species* cultivated, 1. *Flowers*, white, *sum.* *Sow* seeds in light soil in temp. 55° to 65° in Feb. or Mar., harden off seedlings in May, and plant out against sunny trellis or wall in good soil in June.

Carrot (*Daucus carota*).—*Ord.* Umbelliferae. Hardy esculent-rooted biennial. *Nat.* Britain. *Ht.* 12 to 15 in. *Species* cultivated, 1; varieties many. *Flowers*, white, borne second year; June, July. *Soil*, deep, rich, sandy for long kinds; shallow, light for short varieties; that well manured for previous crop most suitable. *Position*, open garden for main crop; south border for early crop. *Sow* in Feb. for early use; in Mar. & Ap. for main crop; Aug. for late crop. *Depth for Sowing*: $\frac{1}{2}$ in. *Distance apart for rows*: 9 in. for long-rooted kinds; 6 in. for short-horn varieties. *Thin* long kinds to 9 in. apart in rows in June; others to 6 in. apart same time. *Stir* surface of soil frequently with hoe. *Left & store* roots in Oct. & Nov. *Manures* (a) 2½ lbs. kainit, 1 lb. sulphate of ammonia, 2½ lbs. guano per square yard, half the amount to be sprinkled along the drills prior to sowing & the remainder when the plants are thinned. (b) 3 lbs. common salt, 1½ lbs. superphosphate, 1½ lbs. nitrate of soda, & 1 lb. kainit, to be applied as advised for a. (c) Beeson's manure or native guano at the rate of $\frac{1}{2}$ lb. per square yard, applied half at time of sowing, & remainder after thinning. (d) Wood ashes are most beneficial to the growth of carrots. Sprinkle thinly along the drills prior to sowing. *FORCING*: *Soil*, light rich. *Position*, frame over hotbed, with temp. 75° to 80°. *Sow* seeds thinly $\frac{1}{2}$ in. deep in Feb. or Mar. *Water* moderately. *Ventilate* frame when temp. reaches 75°. *Thin* seedlings to 3 in. apart when 1 in. high.

Carya (Hickory).—*Ord.* Juglandaceae. Hardy deciduous trees. *Nat.* N. America. *Int.* 1629. *Ht.* 30 to 70 ft. *Species* cultivated, about 10; varieties several. Full grown trees bear edible nuts similar to walnuts. *Soil*, ordinary. *Position*, shrubberies, woods, or as single specimens on lawns & in parks. *Plant*, Oct. to Mar. *Prune*, Nov., thinning out unsightly branches only. *Propagate* by nuts sown 2 in. deep where trees are required to grow, in Nov.

Caryopteris (Moustache plant).—*Ord.* Verbenaceae. Half-hardy shrubby perennial. *Nat.* China & Japan. *Int.* 1814. *Ht.* 2 to 5 ft. *Species* cultivated, 1. *Flowers*, blue; autumn. *Compost*, two parts loam, one part leaf-mould & a little sand. *Position*, pots in cool greenhouse, or in border at foot of a warm, sheltered wall outdoors. *Pot* or plant Ap. *Water* freely in spring & sum.; moderately in winter. *Propagate* by seeds sown in light soil in temp. 55° in spring; cuttings of the young shoots or division of roots in Mar. or Ap.

Castilleja (Painted Cup).—*Ord.* Scrophulariaceae. Half-hardy perennials. *Nat.* N. America and Texas. *Ht.* 6 to 12 in. *Species* cultivated, 9. *Flowers*, yellow; bracts, scarlet; sum. *Compost*, two parts peat, one part of equal proportions of loam, leaf-mould & sand. *Position*, sunny sheltered borders. *Plant* in April. *Protect* in winter. *Propagate* by seeds sown in temp. 55° to 65° in March, hardening off seedlings in cold frame.

Catesbæa (Lily Thorn).—*Ord.* Rubiaceae. Stove evergreen flowering shrub. *Nat.* W. Indies. *Ht.* 2 to 10 ft. *Species* cultivated, 3. *Flowers*, yellow & white; sum. *Compost*, equal parts loam & peat, & a little sand. *Position*, well drained pots & plenty of light. *Pot* in Mar. *Water* freely Mar. to Sept; moderately afterwards. *Temp.*, 55° to 65° Oct. to Mar.; 75° to 85° afterwards. *Propagate* by cuttings inserted in sand under bell glass in a temp. of 75° in spring.

Caucasian Scabious (*Scabiosa caucasica*).—see *Scabiosa*, p. 350.

Celtis (Nettle Tree, Honeyberry).—*Ord.* Urticaceae. Hardy, deciduous ornamental-leaved trees. *Nat.* N. America and S. Europe. *Int.* 1676. *Ht.* 10 to 20 ft. *Species* cultivated 2; varieties, several. *Flowers*, green;

spring. *Habit* of tree, handsome. *Soil*, ordinary. *Position*, sunny shrubberies. *Plant*, Oct. to Feb. *Prune*, Nov. to Feb. *Propagate* by seeds sown outdoors in outer layering shoots in Oct.; cuttings of firm shoots in Nov.

Centrosema.—*O. d.* Leguminosæ. Stove evergreen climbers, *Nat.* Brazil & Florida. *Ht.* 4 to 3 ft. *Species* cultivated, 2. *Flowers*, rose, violet; *sum.* *Compost*, equal parts peat, loam, leaf-mould, & silver sand. *Position*, pots on staging, shoots trained up rafters or round a trellis or sticks. *Pot* in Mar. *Water* freely in spring & *sum.*; moderately in winter. *Temp.*, Mar. to Sep., 75° 85°; Sept. to Mar. 55° to 65°. *Propagate* by seeds in a temp. of 75° in Mar., also by cuttings in sand in a temp. of 55° in *sum.*

Ceratochloa Pendula (Californian Prairie Grass).—*Ord.* Gramineæ. Hardy annual flowering grass. *Nat.* California. *Ht.* 12 in. *Inflorescence*, useful for drying for winter decoration. *Cut* and dry when flowers are fully expanded. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in April.

Ceropegia.—*Ord.* Asclepiadæ. Greenhouse trailing plant. Ornamental leaved. *Nat.* Natal. *Int.* 1897. *Species* cultivated, several; only one worth growing—*C. Woodii*. *Flowers*, pink or violet; *July*. *Compost*, equal parts peat, loam, leaf-mould and silver sand. *Position*, baskets or pots suspended from roof of greenhouse, or in rockeries; sunny. *Pot*, Mar. *Water* moderately between Mar. & Sept.; occasionally afterwards. *Temp.* Mar. to Sep. 55° to 65°; afterwards 45° to 50°. *Propagate* by cuttings of slender shoots inserted in silver sand, in well drained pots, in a temp. of 65° in spring.

Chamæcyparis—This genus is amalgamated with *Retinospora*, and *Cupressus*, which see.

Changeable-flowered Lupin (*Lupinus mutabilis*) see p. 217.

Chloris.—*Ord.* Gramineæ. Hardy annual flowering grasses. *Nat.* India, Mexico. *Species* cultivated 2 (*C. barbata* & *C. elegans*). *Ht.* 12 in. *Inflorescence* suitable for winter decorations. *Cut* and dry when fully developed. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Apr.

Chloropsis Blanchardiana.—*Ord.* Gramineæ. Hardy perennial flowering grass. *Ht.* 2 ft. *Inflorescence*, rose coloured, borne in spikes. *Gather* when fully developed & dry for winter decorations. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Sept. or Ap.

Cibotium (Chignon Fern).—*Ord.* Filices. Stove & greenhouse evergreen tree ferns. *Nat.* China, Mexico, Guatemala. *Ht.* 10 to 15 ft. *Species* cultivated, about 4. *Int.* 1824. *Compost*, two-thirds peat and loam & abundance of sand. *Position*, large pots or tubs well drained in shady stove, greenhouse, or conservatory. *Repot*, Feb., Mar. *Water* moderately, Oct. to Mar., freely afterwards. *Syringe* trunks daily, Mar. to Sept. *Temp.*, Sept. to Mar. 55° to 65° for stove, 45° to 55° for greenhouse; Mar. to Sept., 65° to 75° for stove, 55° to 65° for greenhouse. *Shade* in *sum.* essential. *Propagate* by spores sown at any time on surface of finely sifted loam & peat, in well drained pots covered with a sheet of glass, & kept moist.

Citron Scented Gardenia (*Mitrostigma axillare*)—see p. 238.

Claret Vine (*Vitis vinifera purpurea*)—see p. 414.

Clematis.—Instead of pruning the various types as advised on p. 69, do so as follows:—The *montana*, *florida*, and *patens* types, together with their respective varieties, bear their flowers on the old or ripened shoots. In pruning these, simply cut away weak or overcrowded growths, and remove the tops only of strong shoots of previous year's growth. The *Jackmanni*

launginosa and *uticella* types and their varieties produce their flowers on shoots of the current year's growth. The shoots of the previous year's growth should therefore be shortened two-thirds of their length. Prune in all cases in Feb.

Climbing Gentian (*Crawfurdia japonica*)—see p. 84

Coral Drops (*Bessera elegans*)—see Bessera.

Crassula—see p. 84.

Croton—For culture see *Codiaeum*, p. 72.

Custard Apple (*Anona squamosa*)—see Anona.

Cynara (Cardoon, Globe Artichoke).—*Ord.* Compositæ. Hardy herbaceous perennials. *Nat.* (Cardoon) Candia; (Globe artichoke) S. Europe. *Int.* Cardoon, 1658; Artichoke, 1548. *Ht.* 5 to 8 ft. *Species* cultivated, 2; varieties, several. *Flowers*, blue and purple; *Aug.* Immature flower heads of artichoke used as a vegetable: blanched stalks and mid ribs of leaves of cardoon also edible. **CULTURE OF CARDOON** (*C. cardunculus*): *Soil*, light, deep rich ordinary. *Position*, open and sunny. *Prepare* trenches 12 in. deep. 18 in. wide, and 4 ft. apart from centre to centre in Oct. Fork 6 in. of rotten manure into the soil in bottom of trench. The third week in Ap. spread 2 to 3 in. of light vegetable mould along the trench. Sow the seeds in patches of three or four, 1 in. deep & 18 in. apart, along the centre of trench. Thin seedlings when 3 in. high to one in each patch. Place a stake to each plant when a foot high, & secure the leaves loosely to this. In *Aug.* draw the leaves tightly together, carefully wind a small hayband round each plant & cover with mould. *Plants* are sufficiently blanched for cooking eight weeks after earthing up. *Seeds* may be sown two in a 3 in. pot filled with ordinary soil, placed in temp. 55° to 65° in Mar., hardened off in Ap., & planted out in May. **CULTURE OF ARTICHOKE**: *Soil*, deep rich loam, liberally manured and trenched three spits deep. *Position*, open & sunny. *Plant* suckers, i.e., offshoots, 4 in. deep in triangular groups 9 in. from plant to plant, 2 ft. apart in rows 4 ft. asunder, early in Ap. Keep well watered first season. In Nov. surround each plant with dry litter & in severe weather cover with similar material, uncovering in mild weather. Fork surface over in Mar., & mulch with decayed manure. Apply liquid manure freely to establish plants during sum. Gather flower heads for use when fully developed. Seaweed an excellent manure. Apply in spring. Replant bed every four years. Propagate by offsets or suckers removed in Ap. *Seeds* do not ripen in England.

Cypella.—*Ord.* Iridææ. Half-hardy bulbs. *Nat.* Peru, Mexico, &c. *Species* cultivated, 4. *Flowers*, orange, blue, brown, purple, & yellow; *sum.* *Ht.* 1 to 3 ft. Adapted for cool greenhouse and outdoor culture. Culture same as for *Ixias*, which see.

Cyrilla.—*Ord.* Cyrilleæ. Hardy evergreen flowering shrub. *Nat.* W. Indies, Brazil, Carolina, & Texas. *Ht.* 4 to 6 ft. *Species* cultivated, 1 (*C. racemosa*). *Flowers*, white, borne in tufts on the ends of old wood; *sum.* *Soil*, loam & peat. *Position*, warm, sheltered nooks. *Plant*, Sept. or Ap. Propagate by cuttings in silver sand under bell glass in temp. 55° to 65°.

Cyrtomium.—*Ord.* Filices. Greenhouse evergreen ferns. *Nat.* India, China, & Polynesia. *Int.* 1825. *Ht.* 12 in. to 15 in. *Fronds* feather-shaped. *Compost*, equal parts peat, loam, leaf-mould and sand. *Position*, pots in shady greenhouse. Pot, Mar. or Ap. *Water* freely Mar. to Oct.; moderately afterwards. *Sponge* fronds occasionally to remove dust, etc. *Syringing* fronds not advisable. *Temp.*, Mar. to Oct. 55° to 65°; Oct. to Mar. 50° to 55°. *Propagate* by spores.

Diascia.—*Ord.* Scrophulariaceæ. Half-hardy annual. *Nat. S. Africa. Int.*, 1871. *Ht.*, 1 ft. *Flowers*, rosy pink; summer. *Species* cultivated, 1 (*D. barbereæ*). **INDOOR CULTURE:** *Compost*, two parts sandy loam & one part leaf-mould & sand. *Sow* seeds in a temp. of 60° in Mar. or Ap. *Transplant* seedlings when the third leaf forms, four or five in a 4½ in. pot. *Grow* on shelf near the glass. *Water* freely when flower buds form. Give weak liquid manure occasionally. Shoots may require to be supported by twiggy sticks. **OUTDOOR CULTURE:** *Sow* seeds in temp. of 60° in Mar. or Ap. *Transplant* in pots or boxes when large enough to handle. Gradually harden off in cold frame, & plant out in good ordinary soil in sunny position at the end of May.

Dimorphotheca.—*Ord.* Compositæ. Half-hardy annual and perennial greenhouse plants. *Nat. of S. Africa. First int.*, 1774. *Flowers*, purple, yellow & white; summer. *Ht.*, 1 to 3 ft. *Species* cultivated, about 8. **INDOOR CULTURE:** *Compost*, two parts sandy loam, one part leaf-mould, & a liberal addition of silver sand. *Pot*, Mar. or Ap. *Grow* in cool sunny greenhouse. *Water* freely during spring & summer; moderately in autumn & winter. *Temp.*, Oct. to Mar., 40° to 50°. **OUTDOOR CULTURE:** *Soil*, ordinary, sandy. *Position*, sunny, warm border. *Plant*, May & June. *Propagate* by seeds sown in a temp. of 55° to 65° in sandy soil in early spring, also by cuttings of shoots inserted in spring or summer in sandy soil.

Diospyros (Ebony tree).—*Ord.* Ebenaceæ. (Greenhouse & stove ornamental shrubs. *Nat. Japan, China, Philippines, & West Indies. Int.* 1789. *Ht.* 15 to 20 ft. *Flowers*, insignificant. *Compost*, equal parts peat & loam, with a little sand. *Pot* Mar. *Position*, pots or tubs in light part of greenhouse or stove. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept. 55° to 60°, & Sept. to Mar. 40° to 50°, for greenhouse species; Sept. to Mar. 55° to 65°, & Mar. to Sept. 65° to 85° for stove species. *Propagate* by cuttings of firm shoots inserted in moist sand under bell glass in spring. For culture of hardy species—see p. 106.

Diplarrhena.—*Ord.* Iridæ. Greenhouse perennial. *Nat. Australia. Ht.* 1 to 1½ ft. *Species* cultivated, 1. *Flowers*, white; sum. *Compost*, equal parts peat, loam, leaf-mould, & silver sand. *Position*, pots in sunny part of greenhouse; no shade needed. *Pot* in Mar. *Water* freely in spring & sum.; give little at other seasons. *Temp.*, Mar. to Sept., 55° to 65°; Sept. to Mar. 40° to 50°. *Propagate* by seeds in spring; division of rhizomes same time.

Diplopappus.—*Ord.* Compositæ. Hardy evergreen flowering shrubs. *Nat. N. America. Ht.* 2 to 4 ft. *Species* cultivated, 4. *Flowers*, white, violet, blue; autumn. Best known species is *D. chrysophyllus*, which has golden-tinted foliage; known also as *Cassinea chrysophyllus* and *Aster chrysophyllus*. *Soil*, ordinary. *Position*, sunny, clayish borders. *Plant* in autumn. *Propagate* by cuttings of young shoots inserted in sandy soil in a cold frame any time during sum.

Dragon Root (*Arisema dracontium*)—see *Arisema*.

Earth Nut (*Arachis hypogæa*)—see *Arachis*.

Elisena.—*Ord.* Amaryllidæ. Warm greenhouse bulbous plant. *Nat. Andes of Peru. Int.*, 1837. *Ht.*, 3 ft. *Species* cultivated, 1 (*E. longipetala*). *Flowers*, white; spring. *Compost*, two parts light sandy loam, one part leaf-mould, and one part of coarse sand. *Position*, well-drained pots in warm, sunny greenhouse. *Pot*, autumn. *Water* freely during growing period. Keep nearly dry when at rest. *Temp.*, Sept. to Mar., 55° to 65°; Mar. to Sept., 65° to 75°. *Propagate* by offsets removed & treated as parent bulbs at potting time.

Embothrium.—In addition to methods of propagation described on p. 119, this plant may also be increased by cuttings of roots inserted in sandy peat in temp. 75° in spring; by grafting young shoots on portions of its own roots in spring; also by sowing imported or home-saved seeds in sandy peat, in temp. 75°, in spring.

Enkianthus.—*Ord.* Ericacæ. Greenhouse and hardy evergreen shrubs. *Nat.* Japan and China. *Ht.* 3 to 20 ft. *Species* cultivated 3; greenhouse, hardy (*E. japonicus*) *Flowers*, pink or red; *May.* GREENHOUSE SPECIES; *Compost*, two parts loam, one part peat and sand. *Position*, in light sunny greenhouse. *Pot* in March. *Water* freely from Mar. to Oct. moderately afterwards. *Temp.*, 45° to 50° in winter; 55° to 65° other seasons. *HARDY SPECIES*: *Soil*, ordinary mixed with a little peat and leaf-mould. *Position*, warm, sheltered shrubberies or beds *Plant*, Sept. or April. *Propagate* by cuttings of firm shoots in sandy soil in heat in spring.

Eschschol.—*Ord.* Papaveracæ. Hardy perennial. *Nat.* China. *Int.*, 1889. *Species* cultivated, 1 (*E. chionantha*). *Ht.*, 1 to 2 ft. *Flowers*, white; summer. *Soil*, sandy peat, & leaf-mould. *Position*, sunny well-drained border. *Plant*, Oct. to Mar. *Water* freely in very dry weather. *Propagate* by division of the roots in Mar. or early Ap.

Ercilla.—*Ord.* Phytolaccacæ. Hardy evergreen creeper. *Nat.* Chili. *First* introduced 1840. *Ht.* 10 to 15 ft. *Species* cultivated 1, (*E. spicata*). *Flowers*, purple; spring. *Soil*, sandy loam. *Position*, south or south walls; sunny. *Plant* Sept. or Ap. *Prun* after flowering, cutting away weak and shortening strong shoots one fourth. *Shoots* cling to wall like those of ivy. *Propagate* by cuttings or layers in autumn.

Eucodonia—see *Achimenes*.

Euterpe.—*Ord.* Palmacæ, Stove ornamental-leaved plants. *Nat.* W. Indies, Brazil, & Mauritius. *Int.* 1656. *Ht.* 5 to 10 ft. *Species* cultivated, 5. *Leaves*, green & palm-like. *Compost*, equal parts loam, peat, leaf-mould & sand. *Pot*, Feb. to Mar. *Position*, pots in shady part of stove. *Water* freely always. *Shade* from sun. *Temp.*, Mar. to Sept., 70° to 85°; Sept. to Mar., 60° to 65°. *Propagate* by seeds sown 1 in. deep in above compost, in temp. 85° in spring.

Evening Star (*Cooperia Drummondii*)—see *Cooperia*, p. 78.

Fairy Borage (*Eritrichium nanum*)—see *Eritrichium*, p. 124.

Fairy Forget-Me-Not (*Eritrichium nanum*)—see *Eritrichium*, p. 124.

False Acacia (*Robinia pseudo-acacia*) see *Robinia*, p. 332.

Farfugium grande—see *Ligularia Kamperferi aureo-maculata*.

Fatsia.—This plant may, in addition to other methods of propagation described on p. 130, be also increased by seeds sown $\frac{1}{2}$ in. deep in equal parts loam, leaf-mould, & sand, and placed in a temp. of 65° to 75° in spring.

Ficaria (*Celandine*).—*Ord.* Ranunculacæ. Hardy perennials. *Nat.* England, S. Europe, N. Africa. *Ht.* 6 in. *Species* cultivated, 2; varieties several. *Flowers*, white, yellow; single or double; spring. *Soil*, ordinary. *Position*, moist shady borders, under shade of trees, or margins of water. *Plant*, Mar. *Propagate* by seeds sown in moist position outdoors in Ap.; by division in Mar.

Fidgety Plant (*Desmodium gyrans*)—see *Desmodium*, p. 101.

Fig-leaf Palm (*Fatsia japonica*)—see *Fatsia*, p. 129.

Flannel Flower (*Actinotus helianthi*)—see *Actinotus*.

Florida or Velvet Bean (*Mucuna utilis*)—see *Mucuna*.

Genista fragrans—see *Cytisus racemosa*.

Gelasine—*Ord.* Iridææ. Half-hardy bulbous plant. *Nat. S. America.* *Species* cultivated, 1 (*G. azurea*). *Ht.* 1 ft. *Flowers*, blue; *May*. **OUTDOOR CULTURE:** *Soil*, sandy loam. *Position*, sunny; sheltered nook of rocky. *Plant*, Aug. to Nov 4 in. deep and 4 in. apart. *Protect* from rain in winter by a handlight. **GREENHOUSE CULTURE:** *Compost*, two parts sandy loam and one part leaf-mould and silver sand. *Position*, cold, sunny greenhouse. *Pot* in Aug., placing 3 to 4 bulbs in a 4½ in. pot; bury bulbs just below surface. *Cover* with ashes in cold frame till growth begins, then remove to greenhouse. *Water* moderately when in growth; keep dry after growth ceases. *Propa.* gate by seeds sown in sandy loam in heat; by offsets at potting time.

Globe Artichoke (*Cynara scolymus*)—see *Cynara*, p. 431.

Golden Knee (*Chrysogonum Virginianum*)—see *Chrysogonum*.

Grape Hyacinth (*Muscari botryoides*)—see *Muscari*.

Green Dragon (*Arisaema dracontium*)—see *Arisaema*.

Ground Nut (*Arachis hypogæa*)—see *Arachis*.

Gymnolomia.—*Ord.* Compositæ. Hardy annual. *Nat. New Mexico.* *Ht.*, 1½ ft. *Species* cultivated, 1 (*G. multiflora*). *Flowers*, yellow with dark centre; Aug. & Sept. Useful plant for cutting. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in patches outdoors during Ap. *Thin out* seedlings later on to a few inches apart.

Hart's Foxhorn (*Rhamnus catharticus*)—see *Rhamnus*.

Haplocarpha.—*Ord.* Compositæ. Half-hardy perennial. *Nat. S. Africa.* *Int* 1883. *Ht.* 1 ft. *Species* cultivated, 1. *Flowers*, yellow & purple; *sum.* *Soil*, sandy loam. *Position*, sunny, dry, and well drained border. *Plant*, April. *Propagate* by seeds sown in temp. 55° in spring; also by cuttings inserted in temp. 55° in spring; or in cold frame during *sum.*

Helicophyllum.—*Ord.* Aroidææ. Hardy tuberous-rooted perennial. *Nat. Central Asia.* *Species* cultivated, 1 (*H. Alberti*). *Ht.* 1 to 2 ft. *Flower spathes*, green without, purple within, foetid; *May*. *Soil*, ordinary. *Position*, sunny, sheltered, dryish border. *Plant* in autumn 6 in. deep. *Protect* with a covering of ashes in winter. *Propagate* by offsets.

Homeria.—*Ord.* Iridææ. Handsome greenhouse bulb. *Nat. S. Africa.* *First int.*, 1793. *Species* cultivated, 4. *Ht.*, 1 to 2 ft. *Flowers*, orange, red, yellow, blue, & brown; *summer*. **POT CULTURE:** *Compost*, loam, leaf-mould, & sand in equal parts. Place bulbs 1 in. apart, & 1 in. deep in 5 in. pots during Sept. & Oct. Stand in a cold frame, & cover with a few inches of cocoanut-fibre refuse till growth begins, then remove to greenhouse. Plant in pots near the glass. *Water* freely during active growth. Keep nearly dry after flowers fade to facilitate ripening of bulbs. *Repot* annually in autumn. **OUTDOOR CULTURE:** Plant bulbs 3 to 4 in. deep in light, rich, well-drained soil in a south border between Oct. and Jan. *Protect* with bracken litter or leaves to ward off heavy rains. *Propagate* by offsets removed at planting time.

Honeyberry (*Celtis australis*)—see *Celtis*.

Hop Hornbeam (*Ostrya carpinifolia*)—see *Ostrya*.

Horehound (*Marubium vulgare*)—see *Marubium*.

Hyacinthus Candicans—see *Galtonia*, p. 139.

Incarvillea.—*Ord.* Bignoniaceæ. Hardy herbaceous perennials. *Nat. China.* *Ht.* 2 to 3 ft. *Species* cultivated, 3. *Flowers*, rose & rosy purple; *sum.* All may be grown in pots in cool greenhouses, as well as out-

doors. **OUTDOOR CULTURE:** *Soil*, light, rich & well drained. *Position*, sunny & sheltered borders. *Plant* in Mar. or Ap. *Protect* crowns of the plant in winter by a covering of ashes or manure; or lift roots in Oct.; store like dahlias, re-planting following spring. *Apply* weak liquid manure occasionally in sum. **INDOOR CULTURE:** *Compost*, two parts loam, one part of equal proportions of leaf-mould, decayed manure, & silver sand. *Position*, fairly large pots, well drained in cool or cold greenhouse. *Pot* in Oct. or Mar. *Water* freely in spring & sum.; keep nearly dry in autumn & winter; give weak liquid manure occasionally in sum. *Propagate* by seeds sown in a temp. of 55° in Mar., or in cold frame in Ap., & transplant seedlings outdoors in June. *Sow* also in Sept. in cold frame, & plant out seedlings following Ap. Divide large plants in autumn.

Indian Turnip.—The genus *Arisæma*.

Isle of Man Fuchsia (*Fuchsia Riccartonia*)—see *Fuchsia*, p. 137.

Isoloma.—*Ord.* Gesneraceæ. Stove flowering herbs. *Nat.* Central America. *Ht.* 1 to 3 ft. *Species* cultivated, 16. *Flowers*, rose, red, orange, yellow, lilac, purple, &c.; winter. *Culture & propagation* same as advised for *Gesnera*, which see.

Ivy-Leaved Pelargonium (*Pelargonium*? *peltatum*).—see *Pelargonium*, p. 275.

Jamesia.—*Ord.* Saxifrageæ. Hardy deciduous flowering shrub. *Nat.* Rocky Mountains. *Int.* 1820. *Ht.* 3 ft. to 4 ft. *Species* cultivated, 1, *J. Americana*. *Flowers*, white. *Soil*, ordinary. *Position*, sunny rockeries or borders. *Plant* Oct. to Feb. *Prune* directly after flowering. *Propagate* by cuttings inserted under handlight or in cold frame in autumn.

Japanese Clover (*Lespedeza bicolor*)—see *Lespedeza*, p. 203.

Japanese Quince (*Cydonia japonica*)—see *Cydonia*, p. 92.

Japanese Wineberry (*Rubus Phenicolasius*). *Ord.* Rosaceæ. Hardy fruit-bearing shrub. *Nat.* Japan. *Int.* 1872. *Ht.* 3 to 5 ft. *Fruit*, small, red, & said to be good for eating raw or for preserving. *Soil*, good, rich ordinary. *Position*, sunny part of garden. *Plant* Sept. to Nov., 3 ft. in rows running N. & S. *Train* young shoots to wire trellis & allow older ones to hang loosely. *Fruit* borne on previous year's growth. *Prune* in autumn, cutting away shoots that have borne fruit. *Mulch* liberally with manure in sum. *Apply* liquid manure freely in sum. *Propagate* by division of roots in autumn.

Jarrah (*Eucalyptus marginata*)—see *Eucalyptus*.

Kangura Vine (*Cissus Baudiniana*)—see *Cissus*, p. 67.

Karri (*Eucalyptus versicolor*)—see *Eucalyptus*.

Kill-Dog (*Colchicum autumnale*)—see *Colchicum*, p. 75.

Kochia (Summer or Mock Cypress).—*Ord.* Chenopodiaceæ. Hardy ornamental-leaved annual. *Nat.* Mexico. *Ht.* 2 ft. *Species* cultivated, 1 (*K. scoparia*). *Flowers*, uninteresting. *Leaves*, narrow & green, changing to a brilliant crimson-purple tint in early autumn. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds in light soil in a temp. of 55° in Mar.; transplant seedlings into pots or boxes, harden off in a cold frame, & plant out 2 ft. apart each way in June.

Lady-in-the-Boat (*Dielytra spectabilis*)—see *Dielytra*, p. 105.

Lavender Cotton (*Santolina chamæcyparissus*)—see *Santolina*.

Leptochloa gracilis.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.* 3 ft. *Inflorescence*, borne in long plume-like panicles; very graceful. *Cut and dry* for winter decoration when in full flower. *Soil*, ordinary. *Position*, sunny borders. *Sow seeds* outdoors in Ap.

Leucadendron (Cape Silver Tree).—*Ord.* Proteaceæ. (Greenhouse evergreen trees with silvery silky leaves. In Cape Colony the leaves are utilised for ornamental purposes, especially for painting local scenes thereon. *Nat. S. Africa.* *Species* cultivated, several, the chief one being *L. argenteum*. *Ht.* 15 ft. *Flowers*, yellow; Aug. *Compost*, equal parts sandy loam & peat, with some charcoal and sand. *Position*, light, airy greenhouse, free from damp in winter. *Pot* in March. *Water* moderately in summer; very little in winter. *Temp.*, Mar. to Oct., 60° to 65°; Sept. to Mar., 40° to 50°. *Propagate* by seeds sown in sandy peat in a temp. of 55° to 65° directly they are imported; by cuttings of firm shoots in sand in a temp. of 55° in summer.

Leucocrinum.—*Ord.* Liliaceæ. Hardy bulbous rooted perennials. *Nat. Arizona.* *Ht.* 2 to 3 in. *Species* cultivated, 1 (*L. montanum*). *Flowers*, white, fragrant; spring. *Soil*, sandy loam. *Position*, sunny, sheltered nooks of rockery; good drainage needed. *Plant*, Aug. to Nov. *Protect* from rain in winter by a hand-glass. May also be grown in pots of sandy soil in cold greenhouse. *Pot* in August. *Water* moderately when growing; keep dry when at rest. *Propagate* by offsets in autumn.

Lily of the Nile (*Richardia Ethiopica*)—see *Richardia*, p. 331.

Lily of the Valley (*Convallaria majalis*)—see *Convallaria*, p. 78.

Lily of the Valley Tree (*Pieris floribunda*)—see *Pieris*, p. 292.

Lily Thorn (*Catsbaa spinosa*.)—see *Catsbaa*.

Litonia—*Ord.* Liliaceæ. Greenhouse herbaceous perennial climber. *Nat. S. Africa.* *Int.*, 1853. *Species* cultivated, 1 (*L. modesta*). *Ht.*, 3 to 4 ft. *Flower*, orange; April. *Compost*, two parts loam, one part each of leaf-mould, peat, & silver sand. *Position*, well-drained pots or bed in warm greenhouse. *Pot or plant*, March. *Train* shoots up roof or wall. *Water* freely during spring and summer; moderately, autumn & winter. *Syringe* morning & evening during early period of growth. Plant likes plenty of sunshine. *Temp.*, Mar. to Sept., 65° to 75°; Sept. to Mar. 50° to 60°. *Propagate* by division of the plant at potting time.

Logan Berry.—An American fruit, said to be a hybrid between the raspberry and blackberry. The berries are large, maroon-red in colour, of good flavour, and ripe from July onwards. Best grown as follows:—*Plant* 4 to 5 ft. apart, & place several stout stakes, 5 ft. long, round each plant at a distance of 3 ft. from latter; then train the shoots spirally & horizontally round these. *After fruiting* cut away the fruiting stems, training the young shoots in their place. *Feed liberally* with manure. *Propagate* by division of the roots, or by layering the young shoots in summer.

Loropetalum.—*Ord.* Hamamelideæ. Hardy deciduous flowering shrub, adapted for outdoor and cold greenhouse culture. *Nat. China.* *Species* cultivated, 1 (*L. chinense*). *Flowers*, white; autumn and winter. *Ht.* 3 to 4 ft. **OUTDOOR CULTURE.** *Soil*, ordinary, light, rich. *Position*, warm sheltered borders. *Plant*, Oct. to Feb. *Prune* to maintain good shape after flowering. **GREENHOUSE CULTURE.** *Compost*, two parts sandy loam, one part leaf-mould, & a liberal amount of sand. *Position*, pots in cold, sunny greenhouse; must not be forced. *Water* freely between Mar. & Oct.; moderately afterwards. *Pot* in Oct.; stand outdoors in full sun from June to Oct. to ripen wood. *Propagate* by cuttings in sandy soil in a cold frame in spring or summer; by seeds in similar soil in a cold frame at any time.

London Plane (*Platanus orientalis acerifolia*)—see *Platanus*, p. 298.

Melica.—*Ord.* Gramineæ. Hardy perennial flowering grasses. *Nat.* Peru. *Ht.* 9 in. to 3 ft. *Inflorescence*, borne in silvery plumes or spikes. *Cut* and dry when in full flower. *Soil*, good ordinary. *Position*, large sunny borders for *M. altissima*; small borders for *M. papilionacea*. *Sow* seeds outdoors in Sept. or Ap.

Mock Cypress (*Kochia scoparia*)—see *Kochia*.

Molopospermum.—*Ord.* Umbelliferae. Hardy perennial; ornamental foliage. *Nat.* Central Europe. *Species* cultivated, 1. *Flowers*, yellowish; May. *Leaves*, fern-like & graceful. *Ht.* 3 to 5 ft. *Soil*, deep, rich. *Position*, sunny, fully exposed borders. *Plant* in Mar. *Propagate* by seeds sown outdoors when ripe, or in cold frame in Mar.; also by division of roots in April.

Monarch of the East (*Sauromatum guttatum*)—see *Sauromatum*.

Monkey Nut (*Arachis hypogaea*)—see *Arachis*.

Moustache Plant (*Caryopteris mastacantha*)—see *Caryopteris*.

Mucuna (Florida or Velvet Bean).—*Ord.* Leguminosæ. Half-hardy annual climber. *Nat.* S. America. *Ht.*, 5 to 6 ft. *Species* cultivated, 1 (*M. utilis*). *Compost*, equal parts loam & leaf-mould, with a liberal quantity of sand. *Position*, well-drained pots, and shoots trained up roof of sunny greenhouse. *Sow* seeds in a temp. of 65° to 75°. Carefully transplant into small pots, then shift later on into larger ones. *Water* freely. Plants may be grown outdoors during summer against south wall.

Nettle Tree (*Celtis occidentalis*)—see *Celtis*.

Oblionker Tree (*Æsculus hippocastanum*)—see *Æsculus*, p. 6.

Orange Ball Tree (*Buddleia globosa*)—see *Buddleia*, p. 41.

Ostrya (Hop Hornbeam).—*Ord.* Cupuliferæ. Hardy deciduous trees. *Nat.* Europe. *Ht.* 20 ft. *Species* cultivated, 1 (*O. carpinifolia*). *Flowers*, greenish white, hop-like; May. *Soil*, ordinary moist. *Position*, by the side of streams, lakes, or in shrubberies in damp situations. *Plant*, Oct. to Feb. *Propagate* by seeds placed in a heap outdoors till spring, then sown in sandy soil outdoors; by cuttings inserted outdoors in autumn; by layering in summer; by grafting on the Hornbeam (*Carpinus betulus*) in Mar.

Otaheite Orange (*Citrus japonica*)—see *Citrus*, p. 68.

Oxypetalum.—*Ord.* Asclepiadæ. Stove and warm greenhouse evergreen climbers. *Nat.* Brazil. *First int.*, 1823. *Species* cultivated, about 4. *Flowers*, blue, purple, white; fragrant; summer. *Compost*, equal parts fibrous peat, loam, & sand. *Position*, well-drained pots; shoots trained up roof. *Pot*, Mar. or Ap. *Water* freely in summer; moderately autumn & winter. *Syringe* morning & evening in spring time. *Prune* into shape Feb. *Rept.*, Mar. *Temp.*, Mar. to Sept. 65° to 75°; Sept. to Mar. 55° to 65°. *Propagate* by seeds sown in sandy peat, in a temp. of 75° in spring, or by cuttings placed in sand under a bell-glass over bottom heat in spring.

Pampas Lily of the Valley (*Withania origanifolia*)—see *Withania*.

Paspalum Elegans.—*Ord.* Gramineæ. Hardy annual flowering grass. *Ht.* 12 in. *Inflorescence*, suitable for bouquets & floral decorations. *Gather* & dry when in flower. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds outdoors in Ap.

Patchouli Plant (*Pogostemon patchouli*)—see *Pogostemon*.

Patrinia.—*Orl.* Valerianæ. Hardy biennials and perennials. *Nat.* China & Siberia. *Ht.* 1 ft. *Species* cultivated, 1 perennial (*P. heterophylla*) & 4 biennials. *Flowers*, yellow; *sum.* Soil, ordinary. *Position*, sunny borders. *Plant* in March. *Propagate* by seeds sown in light soil outdoors in April.

Pedlar's Basket (*Saxifraga urmentosa*)—see *Saxifraga*, p. 9.

Pelargonium.—See p. 275.

Persea (Avocado Pear).—*Orl.* Laurinæ. Stove evergreen shrub. *Nat.* W. Indies. *Ht.* 10 ft. *Species* cultivated, 1 (*P. gratissima*). *Flowers*, green. *Fruit*, pear-shaped, purplish when ripe, & edible. *Compost*, equal parts loam & peat, & a little sand. *Position*, moist stone in pots. *Pot* in March. *Water* freely in summer, little in winter. *Spring* daily in spring & summer. *Temp.* Mar. to Sept., 75° to 85°; Sept. to Mar., 55° to 65°. *Propagate* by seeds sown in above compost in a temp. of 85°; by cuttings in sand under bell glass in a similar temperature in spring.

Pheasant's Tail Grass (*Aperis arundinacea*)—see *Apera*.

Placea—*Orl.* Amaryllidæ. Greenhouse bulbous plants. *Nat.* Chili. *Ht.* 12 to 18 in. *Species* cultivated, 3. *Flowers*, yellow, crimson, purple & white; spring to autumn. *Culture*, same as for *Nerines*, which see.

Pogostemon (Patchouli plant).—*Ord.* Labiæ. Greenhouse shrubby plant.* *Nat.* East Indies. *Int.* 1848. *Ht.* 3 ft. *Flowers*, white and purple; *sum.* *Leaves* fragrant, furnishing the Patchouli perfume of commerce. *Compost*, equal parts peat & loam, with a little sand. *Position*, pots in sunny greenhouse. *Pot*, Mar. *Water* freely Mar. to Oct., moderately afterwards. *Temp.*, Mar. to Sept., 55° to 65°, Sept. to Mar., 50° to 55°. *Propagate* by cuttings inserted in equal parts peat, loam, & sand, under bell glass, in temp. 55° to 65° in spring.

P. or Man's Orchid—A name applied to Spanish and English Irises, which see.

Pretty Betsy (*Centranthus ruber*)—see *Centranthus*, p. 57.

Raspberry-Blackberry.—A recently raised hybrid, between Raspberry (*Belle de Fontenay*) & the Common Blackberry, & known as 'The Mahdi.' It partakes of the character of both parents in the form of its foliage, but has the habit of a raspberry. *Fruit*, purplish red, with a raspberry flavour, large, & ripening early in Aug. *Culture*, same as for raspberry. See *Rubus*.

Ridge Cucumber (*Cucumis sativus*)—see *Cucumis*, p. 87.

Roella (South African Harebell).—*Ord.* Campanulacæ. Greenhouse evergreen shrub. *Nat.* S. Africa. *Int.* 1774. *Ht.* 6 to 12 in. *Species* cultivated, 1. *Flowers*, white, purple & violet; *sum.* *Compost*, equal parts of peat & loam & a fair quantity of sand. *Position*, pots in light & dry part of greenhouse. *Pot*, Mar. *Water* very carefully during spring & *sum.*, & give very little in autumn and winter. *Springing* or wetting the foliage must be avoided at all seasons. *Ventilate* freely in summer & moderately at other times. *Dry* atmosphere essential in autumn & winter. *Remove* flowers directly they fade; also all blooms that form in autumn & winter. *Temp.* Sept. to Ap. 40° to 45°; Ap. to Sept. 50° to 60°. *Propagate* by cuttings 61 strong shoots 2 in. long, inserted in moist sand in a temp. 58° in spring. Shade from sun.

Rose Mallow (*Hibiscus roseus*)—see *Hibiscus*, p. 166.

Rose of Sharon (*Hibiscus syriacus*).—see *Hibiscus*, p. 166

Rosmarinus (Rosemary).—*Ord.* Labiatae. Hardy evergreen shrub. *Nat.* S. Europe. *Int.* 1548. *Ht.* 3 to 4 ft. *Species* cultivated, 1; *varieties*, 2. *Flowers*, purple; Feb. *Leaves*, highly fragrant. *Soil*, ordinary, freely mixed with old mortar. *Position*, dryish border at base of a south or west wall; rarely does well in open garden. *Plant*, Ap. *Water* freely in sum. *Propagate* green-leaved kind by seeds sown $\frac{1}{2}$ in. deep in sunny border outdoors in A₁; green and variegated sorts by cuttings 6 in. long, removing leaves from lower half, inserted in shady border in spring or sum.; also by layering strong shoots in sum.

Rosemary (*Rosmarinus officinalis*)—see *Rosmarinus*.

Rulingia—see *Anacampseros*.

Saintpaulia African Violet.—*Ord.* Gesneriaceae. Warm greenhouse perennial. *Nat.* Africa. *Int.*, 1894. *Ht.* 3 in. *Species* cultivated 1, (*S. ionanthe*). *Flowers*, violet; Oct. to Ap. *Compost*, equal parts of loam, leaf-mould, peat & sand. *Pot*, Feb. to May. *Size of pots*, 3 in. for small & 4½ in. for large plants. *Pots* to be well drained. *Water* freely from Ap. to Sept.; moderately afterwards. *Apply* weak liquid manure occasionally during flowering season. *Temp.*, Oct. to Ap., 53° to 60°; Ap. to Oct. 65° to 75° *Propagate* by seeds sown thinly on surface of a compost of equal parts peat, leaf-mould, loam & sand in well-drained pots or shallow boxes. Cover seeds with a sprinkle of fine sand; shade from sun & place in temp. of 65° to 75° in spring.

Sauromatum (Monarch of the East).—*Ord.* Aroideae. Half-hardy perennial, with tubercous roots & arum-like flower spathes. *Nat.* Central Asia. *Species* cultivated, 1 (*S. gutattum*). *Ht.* 18 in. *Flowers*, yellowish orange-red, spotted with dark red; spring. *Culture*: Purchase tubers in autumn, place them in a dry saucer in a warm room, & in a few weeks the flower spathe will appear. No soil or water needed. After flowering, plant the tuber in a moist place outdoors to make its leaf growth. *Lift* in Aug., keep in a cool place, & and again place in a saucer indoors. Repeat the operation year by year.

Schubertia Grandiflora—see *Arauja* for culture, p. 435.

Sour Sop (*Anona muricata*)—see *Anona*.

South African Harebell (*Roella ciliata*)—see *Roella*.

Spanish Iris (*Iris Xiphion*)—see *Iris*, p. 181.

Stachys (Woundwort, Chinese Artichoke).—*Ord.* Labiatae. Hardy perennials & tuberous-rooted vegetables. *Nat.* Siberia, Mexico, & N. China; *Ht.* 1 ft. to 2 ft. **CHINESE ARTICHOKE** (*S. tuberosa*): First introduced 1877 *Ht.* 9 in. to 15 in. *Tubers*, white, spiral in shape; 1 in. to 2 in. long & $\frac{1}{2}$ in. thick. *Soil*, ordinary, deeply dug. *Position*, sunny. *Plant* tubers 9 in. apart, 4 in. to 6 in. deep, in rows 18 in. asunder in Mar. or Ap. *Stir* surface of soil between rows frequently. No earthing up required. *Lift* tubers in autumn as required for use. *Cover* surface of ground in severe weather with litter. **HARDY PERENNIALS** (*S. lanata* & *S. coccinea*): *Flowers* of *S. coccinea*, scarlet. *Leaves* of *S. lanata* woolly. *Soil* ordinary. *Position*, shady border for *S. coccinea*; edgings to borders or beds for *S. lanata*. *Plant* autumn or spring. *Propagate* by division in autumn or spring.

Stanleya.—*Ord.* Cruciferae. Hardy perennial herb. *Nat. California.* Species cultivated, 1 (*S. pinnatifida*). *Ht.*, 3 to 4 ft. *Flowers*, yellow; summer. *Soil*, ordinary. *Position*, sunny border. *Plant*, Oct. or Ap. *Propagate* by seeds sown in gentle heat in spring, planting out in May or June; also by division of the roots in Oct. or Mar.

Strawberry-Raspberry.—A so-called hybrid, between a strawberry & a raspberry. Professor Caird of Rhode Island, U.S.A., however, says it is not so, but a species of blackberry named *Rubus rosafolius*, a native of Japan. It is not considered to possess any valuable merits in America, & not having made satisfactory progress here, is hardly worthy of cultivation in English gardens.

Stenactis—see *Erigeron*, p. 123.

Stenotaphrum (Variegated Grass).—*Ord.* Gramineae. Greenhouse ornamental-leaved grass. *Nat. Carolina. Int.* 1822. *Ht.* 6 to 8 in. One kind only cultivated *glabrum variegatum*. *Leaves*, narrow, grass-like, striped with yellow. *Compost*, equal parts peat, loam, leaf mould & sand or Jadoo fibre. *Position*, warm & moist part of greenhouse. *Pot*, Mar. *Water* copiously Mar. to Sept., fairly freely Sept. to Mar. *Temp.* Sept. to Mar. 50° to 55°; Mar. to Sept. 55° to 65°. *Propagate* by cuttings of shoots, or by division of roots in spring.

Stylophorum.—*Ord.* Papaveraceae. Hardy herbaceous perennials. *Nat. U.S.A. and Japan. Ht.* 9 to 18 in. *Spikes* cultivated, 2. *Flowers*, yellow; June. *Soil*, ordinary, light. *Position*, sunny borders. *Plant* in Mar. or Ap. *Propagate* by seeds sown outdoors in April; by division in March.

Sugar Cane Begonia (*Begonia manicata*)—see *Begonia*, p. 27.

Sugar Corn (*Zea saccharata*)—see *Zea*.

Summer Cypress (*Kochia scoparia*)—see *Kochia*.

Sweet Corn (*Zea saccharata*)—see *Zea*.

Sweet Sop (*Annona squamosa*)—see *Annona*.

Thuia—see *Thuya*, p. 390.

Thuiopsis—see *Thuyopsis*, p. 390.

Tree Tomato (*Cyphomandra betacea*)—see *Cyphomandra*, p. 93.

Tricholæna Rosea.—*Ord.* Gramineae. Hardy annual flowering grass. *Ht.* 2 ft. *Inflorescence*, rose-coloured, borne in spikes; pretty for bouquets. *Soil*, ordinary. *Position*, sunny borders. *Sow* seeds out-doors in Ap. *Gather* & dry when in flower for winter use.

Trumpet Ash.—(*Bignonia & Tecoma*)—see pp. 29 & 385.

Turnip-rooted Celery—see *Celery*, p. 55.

Ungernia.—*Ord.* Amaryllidaceae. Hardy bulbous-rooted plant. *Nat. Afghanistan. Ht.* 6 to 12 in. Species cultivated, 1 (*U. triphara*). *Flowers*, red; sum. *Culture*, same as for *Lycoris*, which see.

Urospermum.—*Ord.* Compositae. Hardy perennials. *Nat. S. Europe & S. Africa. Ht.* 1 to 2 ft. Species cultivated, 2; varieties, 2. *Flowers*, yellow; sum. *Soil*, ordinary. *Position*, sunny borders. *Plant* autumn or spring. *Propagate* by seeds sown outdoors in March or April, planting out seedlings later.

Vancouveria.—*Ord.* Berberidaceae. Hardy herbaceous perennial. *Nat. California. Int.* 1827. *Ht.* 9 in. Species cultivated, 1. *Flowers*, lilac; spring. *Soil*, peaty. *Position*, moist and sunny rockery. *Plant*, Ap. *Propagate* by division of roots in Ap.

Vernonia. — *Ord.* Compositæ. Stove and hardy herbaceous flowering plants. *Nat. S. America, E. Indies, S. Africa, N. America, Mexico & Nepal.* *First cult.*, 1710 *Ht.*, 1 to 12 ft. *Flowers*, lilac, white, & purple; summer & autumn. **CULTURE OF STOVE SPECIES:** *Compost*, two parts sandy loam, one part leaf-mould & silver sand. *Position*, pots in shady stove. *Pot*, Mar. or Ap. *Syringe* freely morning & evening in summer. *Water* freely in spring & summer; moderately, autumn & winter. *Prune* into shape Feb. or early Mar. *Temp.*, Oct. to Mar., 55° to 65°; Mar. to Oct., 75° to 85°. **CULTURE OF HARDY SPECIES:** *Soil*, rich, sandy loam. *Position*, sunny borders. *Plant*, Mar. or Ap. *Top dress* with decayed manure in spring. *Propagate* stove species by seeds sown in sandy loam & peat, in a temp. of 75° to 85° in spring: by cuttings in pure sand or sandy loam & leaf-mould under a bell-glass, or under a propagating frame in spring or summer; also by division of the roots at potting time; hardy species by seeds sown in sandy soil in a cold frame in Mar. or Ap., or outdoors in a sunny border in Ap.; also by division of the roots in Mar. or Ap.

Water Lilies—see *Nymphæa*, p. 257, and *Nuphar*, p. 257.

West Indian Kale (*Colocasia esculenta*)—see *Colocasia*, p. 374.

White Cedar—*Chamaecyparis* genus, which see.

Whitloof (*Cichorium intybus*)—see *Chicory*, p. 62.

Withania (*Pampas Lily of the Valley*).—*Ord.* Solanacæ. Hardy herbaceous perennial climber. *Nat. S. America.* *Ht.* 20 to 30 ft. *Species* cultivated, 1. *Flowers*, white; sun. *Soil*, ordinary. *Position*, sunny arbours, trellises, fences, etc; specially adapted for seaside gardens. *Plant* Mar. or Ap. *Cut down* stems in autumn. *Propagate* by division of roots in Mar. or Ap.

Yellow Asphodel (*Asphodeline lutea*)—see *Asphodeline*, p. 20.



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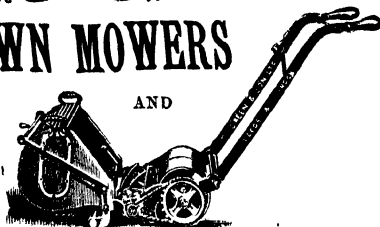
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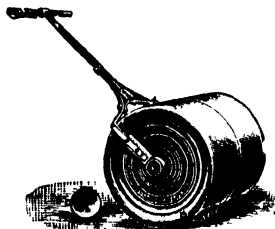
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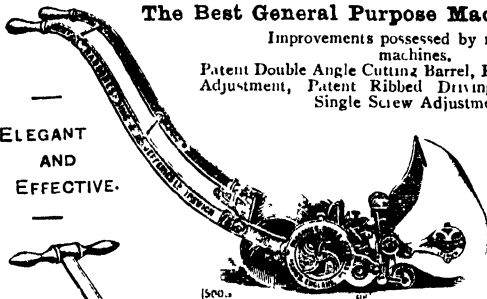
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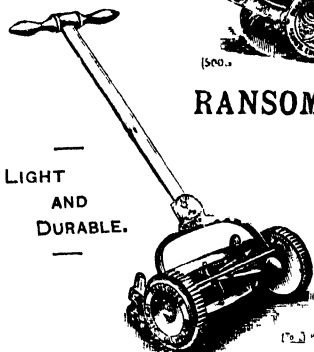
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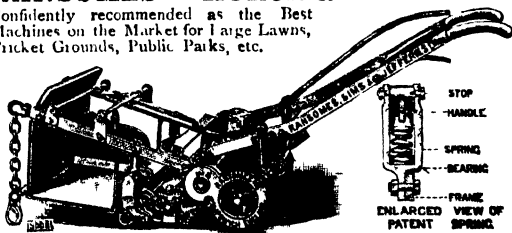
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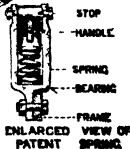
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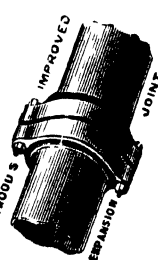
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